

PROTECTING THE UNPROTECTED METHODS OF PROTECTING KNOWLEDGE AND INNOVATIONS IN FINLAND

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ABSTRACT

Innovations play a great role in the business today. However, the protection of innovations is problematic and raises questions worldwide, especially in the companies operating in the service business sector, because more often than not their business is not based on anything patentable, but on knowledge intensive innovations, which cannot usually be protected by the means of the statutory IPR. Thus these innovations have to be protected by other means such as non disclosure agreements and agreements limiting competition. Current research data implicates that in western economies, the trend has been set by the ever increasing importance of service intensive business. Unsurprisingly, it has now eclipsed all the other sectors and is now holding the largest share of the global GDP. Moreover, companies operating in the more traditional industries have increased their exposure to the service business, because its defensive nature helps in balancing through business cycles. The increased role of service business has recently been the leading trend in the western economies and thus the question of how to protect innovations, has become more and more relevant. The legislation concerning the protection of knowledge intensive innovations in Finland is at the moment ambiguous (for ex. in Finland the Criminal Act, the Unfair Business Practices Act, the Contracts of Employment Act, the Damages Act etc.). The main focus in innovation studies has previously been on the manufacturing sector and the research on intellectual property right (IPR) system has been almost exclusively centred on patenting. However the growing importance of knowledge-based activities and thus need for protection of innovations and knowledge has grown substantially especially in the service business sector, because their primary asset is more often than not human capital, knowledge and skills.

Keywords: knowledge intensive innovation, service business, know-how, trade secret, unfair business practices.

INTRODUCTION

Innovations play a great role in the business today. However, the protection of innovations is problematic and raises questions worldwide, especially in the companies operating in the service business sector, because more often than not their business is not based on anything patentable, but on knowledge intensive innovations, which cannot usually be protected by the means of the statutory IPR. Thus these innovations have to be protected by other means such as agreements and non-legal forms of protection.

Current research data implicates that in western economies, the trend has been set by the ever increasing importance of service business. The transition from manufacturing economy to a service economy is ongoing (VTT, 2508). Unsurprisingly the service sector has now eclipsed all the other sectors and is now holding the largest share of the global GDP. In Finland the corresponding share is already over two thirds of the GDP (VTT, 2508). Moreover, companies operating in the more traditional industries have increased their exposure to the service business, because its defensive nature helps in balancing through business cycles. The increased role of service business has recently been the leading trend in western economies, and thus the question of how to protect innovations, has become more and more relevant.

The legislation concerning the protection of knowledge and innovations in Finland is at the moment ambiguous. Legislation is found for example in the Unfair Business Practices Act (1061/1978, UBPA), the Employment Contracts Act (55/2001, ECA), the Damages Act (412/1974) and the Penal Code, (39/1889, PenC).

Most of the legislation concerning the protection of innovations is also relatively old. As the society has changed and as business environment has dematerialized after these Acts have come into effect they do not adequately meet present day needs. For example UBPA already came into effect in 1978. Since then, the internet has merely drastically changed the business environment, and new businessmodels have been introduced.

The main focus in innovation studies has previously been on the manufacturing sector. Similarly, research linking together innovation and the Intellectual Property Right (IPR) system has been almost exclusively centred on patenting, with its emphasis on protecting physical artefacts centered on new products and processes. However the growing importance of knowledge-based activities and thus need for protection of innovations and knowledge has grown substantially especially in the service business sector, because the primary asset is more often than not human capital, knowledge and skills (Miles & al. 2000).

According to a survey made by The Helsinki Region Chamber of Commerce 68 % of the companies interviewed for the research were not satisfied with the present state of legislation in Finland feeling that the legislation offers inadequate tools for the protection of innovation and knowledge (<http://www.helsinki.chamber.fi/>).

The purpose of this paper is to examine different methods of protecting knowledge and innovations in Finland and to discuss the problems involved in their protection. The emphasis of the paper will be on the contractual and non-legal methods of protection.

This paper concentrates on service innovations and knowledge intensive innovations and therefore the questions concerning patentable innovations will not be discussed. The term innovation is used for service innovations and knowledge intensive innovations in this paper. The term used for a trade secret differs according to Act. For cohesion the term trade secret is used jointly for the terms business secret and trade secret.

METHODS OF PROTECTING KNOWLEDGE AND INNOVATIONS IN FINLAND

Statutory Methods of Protection

According to the narrow definition of IPR, copyright, patent right, trademark, utility model and registered design are protected as intellectual property in the Finnish legislation (Koulu, 2003). These exclusionary rights however offer only very limited protection in regards of protecting service innovations and knowledge, since knowledge is very seldom for instance anything patentable¹. The protection offered by the exclusionary rights is usually most suitable for technological innovations, whereas service innovations are usually intangible and more complex and thus create challenges for the IPR system (Blind & al., 2003. See also Miles & al., 2000).

The broad definition of IPR identifies the legislation concerning the unfair business practices, which are protected in UPBA. The UPBA, however, does not grant exclusionary rights to the owner of the innovation or knowledge.

When protecting innovations and knowledge in situations where the exclusionary rights' protection is not available, the key questions usually are: 1) how to protect knowledge in the most efficient way and 2) how to protect innovations from imitation by rival firms. In the lack of exclusionary protection, knowledge and innovations are often protected as trade secrets.

Trade secrets have been regarded as intellectual property by the broad definition of IPR (Castrén, 1999). However, compared to the exclusionary rights, trade secrets as intellectual property are of a very different nature. A trade secret does not grant its owner an exclusionary right, but it prevents another party from obtaining the trade secret in an immoral way (Government bill HE 114/1978). However when it comes to the legal remedies, the concept of a trade secret is similar to IPR in sense that in case of an infringement, also the owner of the trade secret has the legal right to demand the infringing party from continuing the breach and to claim damages based on the infringement.²

The protection of trade secrets is very ambiguous in Finland. Legislation can be found in several acts and decrees. The most centre provisions are found in UPBA, ECA and PenC. Legislation concerning secrecy is spread out in several other Acts as well, which makes it at times rather difficult to interpret for example the subjective scope of the trade secret. The provisions that lay down the obligation to maintain the secrecy are also of a very different type (Vapaavuori, 2005).

UPBA, section 4 is a provision protecting trade secrets. The provision provides protection in four different situations:

The paragraph 1 is a general provision concerning secrecy. According to it "No one may unjustifiably obtain or seek to obtain information regarding a business secret or use or reveal information obtained in such a manner.

The paragraph 2 concerns employees and is partly overlapping with the provisions of ECA. According to it "Whoever obtains information regarding a business secret while in the service of an entrepreneur may not unjustifiably use or reveal it while still in service in order to obtain personal benefit or benefit for another or in order to harm another."

The paragraph 3 concerns for example subcontractors. According to the paragraph 3 "Whoever receives information regarding a business secret while performing a function on behalf of an entrepreneur, or who has been entrusted with a technical model or technical instructions so that he can carry out work or a function or otherwise for business purposes, may not unjustifiably use or reveal this."

¹ The conditions of patentability will not be discussed in this paper.

² However, it must be noted that the conditions of compensation for damages are different with the statutory rights and the trade secrets. Most Acts concerning the statutory rights have their own provision on damages and they do not make a distinction between personal injury, material damages and pure economic losses. UPBA does not have a provision on damages and hence the general provision concerning the compensation for damages laid down in the Damages Act applies. The Damages act sets special conditions for compensating the pure economic losses. According to the Damages Act Chapter 5, section 1, the pure economic losses are compensated only if caused by a crime, by a government official or if there are other especially weighty reasons for compensation.

The paragraph 4 concerns anyone who has been informed of a trade secret. This provision extends the duty to maintain secrecy to technical models and technical instructions. The difference between a trade secret and a technical model and technical instruction will not be discussed in this article. According to the paragraph 4 "Whoever has been informed by another of a business secret, a technical model or technical instructions in the knowledge that said person has unjustifiably obtained or revealed the information may not use or reveal this."

According to ECA chapter 3, section 4, paragraph 1 "During the term of employment, the employee may neither utilize nor divulge to third parties the employer's trade or business secrets. If the employee has obtained such information unlawfully, the prohibition continues after termination of the employment relationship." With an NDA the employee may be prohibited to divulge the trade secret after the termination of the employment relationship. This will be discussed in more detail in the chapter 2.2.

The penal provisions concerning trade secrets are laid down in PenC. Chapter 30, sections 4, 5 and 6, concern business espionage, violation of a business secret and misuse of a business secret. Chapter 38, section 1 and 2 concern secrecy offence and secrecy violation. The penal provisions do not include the definition of the trade secret. The definition is laid down in each of the relevant Acts and it depends on the Act or the decree applied what the definition of a trade secret is in each case (Vapaavuori, 2005).

The protection offered by the legislation has been regarded insufficient and not up to date (Vapaavuori, 2005. See also the survey conducted by the Helsinki Region Chamber of Commerce, www.chamber.fi) For this reason the use of contractual and non-legal methods of protection has substantially increased among companies operating in the service business and knowledge intensive business sector in the recent years.

Contractual Methods of Protection

An important way of protecting knowledge and innovations is to enhance the protection offered by the legislation by different types of agreements. These agreements may be for example NDA's, agreements limiting competition and agreements on recruitment freeze. Agreements are of a significant importance especially in situations where the statutory protection is not available.

In the service business sector, where the primary asset in business is more often than not human capital, knowledge and skills, it is most crucial to secure the company's trade secrets when an employee is recruited by a rival firm. Cooperation between companies is nowadays also more common than it used to be, and companies are outsourcing more and more strategical activities, which leads to the situation where trade secrets must be disclosed to the cooperation partners. When outsourcing activities, it must be made sure that the key knowledge of a company is not misused after the cooperation ends (Vapaavuori, 2005).

NDA's play a key role when protecting knowledge and innovations as trade secrets. With a DNA the contracting parties may expand the definition of a trade secret. There is no special legislation concerning NDA's in Finland and thus general principles of contract law apply. In most cases the contracting parties have a relatively wide freedom of contract and hence they can freely agree on the scope of the confidentiality and what is regarded as trade secrets (Vapaavuori, 2005).

If no NDA is concluded, to qualify as a trade secret, three conditions have to be fulfilled according to the travaux préparatoires of PenC: Firstly, the company must show that it has a will to keep the confidentiality. Secondly, it has to prove that there is an interest to keep the confidentiality. Lastly, the company must keep the information confidential in practice (Government bill HE 66/1988). With an NDA the contracting parties can define for example know-how as a trade secret even when these conditions are not fulfilled.

However, the freedom of contract is restricted in employment. Without an NDA, an employee is obligated to maintain a trade secret during the employment and two years after the end of employment. These principles are laid down in ECA, UBPA and PenC. With an NDA the obligation to maintain secrecy may be extended beyond the two year's period. However it is not possible to obligate the employee to maintain the secrecy, if the information in question qualifies as know-how instead of qualifying as a trade secret. The employee's right to use know-how and professional skills learned during the employment in the future employments when working for a rival firm, cannot be restricted bindingly by contract (Castrén 1973).

The principle may seem simple, but in practice it is often very hard to define whether the innovation or knowledge qualifies as a trade secret or know-how, and the question seems to be one of the most difficult ones to resolve when it comes to NDA's. Drawing a line between know-how and trade secrets always has to be made case specifically and no categorical guidelines for it can be given. Also the legal praxis is very case specific, and thus not suitable for forming guidelines for defining the difference

between know-how and trade secrets. It is generally approved that if the information is generally known, it cannot be regarded as trade secret (Castrén 1973).

According to the travaux préparatoires of UBPA, know-how can be described as business experiences, of which most can be described as information based on experience to capitalize on information (Government bill HE 114/1978). The concept of know-how is partly convergent with the concept of a trade secret; know-how can be confidential and on the other hand it may be non-confidential. If it is confidential, it is practically equivalent with the concept of trade secret. This kind of know-how is not usually generally known in the area of practice of the company and it is often very valuable for the company. Thus it can be described as special professional skills. In defining whether it is confidential or not, it can, for example, be asked, whether the know-how in question is very closely related to the company? If the answer is yes, it may be possible to regard the know-how as confidential (Vapaavuori, 2005). The non-confidential know-how again is equivalent with a person's professional skills and the employee's right to use it in future employment cannot be restricted. However, it must be noted that it may also be extremely difficult to draw a line between non-confidential and confidential know-how and evidently it is in the discretion of the court to make the distinction case by case.

In business relationships there are usually no limitations for the use of NDA's, but it is clear that also companies gain professional knowledge from each other when cooperating. Hence, it is very important to define in the NDA the scope of confidential information. However, even if the definition was made in the agreement, it may still be very difficult to ex post define whether the information exploited was trade secret or the kind of know-how that the contracting party had the right to make use of in its own business. This is why it is usually practical to agree that all the information that has been disclosed during the business relationship can only be used for the purposes it was originally disclosed for (Vapaavuori, 2005).

Agreements limiting competition relate closely to NDA's when protecting knowledge and innovations (Koskinen, 2004). They can be used in both business relationships and employment. ECA limits the possibility to conclude an agreement limiting competition with an employee. ECA Chapter 3, section 3 prohibits the employee from working for another party or from engaging in such activity that would, taking the nature of the work and the individual employee's position into account, causing manifest harm to their employer as a competing activity contrary to fair employment practices. This provision concerns the competing activity during the employment and does not form considerable problems.

However ECA Chapter 3, section 5 concerns competing activity after the end of the employment and is somewhat problematic by interpretation. According to it an agreement of non-competition to limit the employee's right to conclude an employment contract on work to begin after the employment relationship or to limit the employee's right to engage in such operations on his or her own account may be made only *for a particularly weighty reason*. In assessing the particular weight of the reason for instituting an agreement of non-competition, the criteria taken into account shall include the nature of the employer's operations and the need for protection related to keeping a business or trade secret or to special training given to the employee by the employer, as well as the employee's status and duties. The particular weight of reason has been broadly discussed in jurisprudence and there is not clear consensus when the conditions for a non-competition agreement in employment are fulfilled (See for example Tiitinen-Kröger 2003, Rautiainen-Äimälä 2001, Kairinen 2001, Saarinen 2003).

The agreement of non-competition may be in force for a maximum of six months. If the employee can be deemed to receive reasonable compensation for the restrictions imposed by the agreement of non-competition, a restriction period can be agreed on that extends over a maximum of one year. Instead for compensation of loss, also a provision on contractual penalty may be included in the agreement. The penalty shall not exceed the amount of pay received by the employee for the six months preceding the end of the employee's employment relationship. It is noteworthy that in legal praxis the conditions of concluding a non-competition agreement with an employee have been interpreted rather narrowly, because the purpose of the employment legislation is to protect the weaker party – the employee (See for ex. Turku Court of Appeal decision 6.11.2008, S07/2613 and Helsinki Court of Appeal 24.10.2008, S07/3485).

Finally, it is to be noted that according to ECA, an agreement of non-competition does not bind the employee if the employment relationship has been terminated for a reason deriving from the employer. The reason may be for instance redundancy or bankruptcy of the employer.

In business relationships these agreements may be used more freely, unless the other contracting party, for example a small company subcontractor can be paralleled with an employee. However even if the contracting parties were equal players, there may be restrictions for the use of agreements limiting competition due to the legislation on restraint of competition (Competition Act, 948/2011, CA, Treaty on the Functioning of the European Union, 2010/C 83/01, article 101). According to the CA chapter 2, section 5 "All agreements between undertakings, decisions by associations of undertakings, and concerted practices by undertakings which have as their object the significant prevention, restriction or distortion of competition or which result in a significant prevention, restriction or distortion of competition shall be prohibited."

It has been suggested that the prohibition to use agreements limiting competition should be interpreted broadly (see for ex. Aalto-Setälä & al 2003). However, the principle of legality has to be taken into account in the interpretation (Määttä, 2004).

In addition to NDA's, non-competition agreements and agreements limiting competition, companies operating in the service sector, can use agreements on recruitment freeze to limit the contracting parties' possibilities to recruit each other's personnel. Also agreements on transfer of rights can be used to ensure the transfer of rights related to inventions from employees to companies, and agreements on rights of ownership and use to share the rights to results from cooperation projects in a manner satisfactory to all contracting parties (Päällysaho and Kuusisto 2006).

Together the statutory and the contractual methods of protection do not seem to offer adequate protection for knowledge and innovation. Their use is partly restricted and also the nature of knowledge and innovations make them vulnerable to misuse even if a firm in possession of knowledge and innovations has paid careful attention to their protection by legal and contractual methods. This is because for example, more often than not, innovation requires exchanging ideas and interaction between people and when a person learns an interesting idea or piece of information, this person easily gets convinced that he or her always knew it and thus has the right to utilize it (Slowinski & al., 2006).

Copying information is very easy due to the technology and it may even lower the threshold of acquiring trade secrets unlawfully. Disseminating information is fast and almost cost-free due to the information technology and a large amount of public may get an access to a trade secret of a company in a very short period of time if the trade secret leaks out to the internet (Miles & al., 2000). If the information gets disclosed to the public, the damages may easily become irreparable despite the legal remedies the legislation has to offer (Government bill HE 114/1978). It is nearly impossible to define how large amount of public have become aware of the trade secret and perhaps even more difficult to find out the number of copies taken from the leaked information.

Once the trade secret leaks out it is usually nearly impossible to gain the secrecy back whereas for example a patent gives more efficient protection against infringements since patenting protects the innovation in situation where the information concerning a commodity is already public. However, as noted, patenting does not suit very well for protecting innovations (Cane, 1996).

Non-legal Methods of Protection

Since the agreements are not always an effective enough method for protecting innovations against humanly behavior, and the statutory methods of protection have proven to be inadequate, companies operating in service and knowledge intensive businesses rely much on the non-legal and informal methods of protection.

These methods include for example publishing, restricted access to information, loyalty building among personnel, division of duties, circulation of staff between tasks, documentation, fast innovation cycle, technical protection and complexity of design (Birk 2006, Päällysaho and Kuusisto 2006). These methods are usually easy to apply, partly overlapping and their simultaneous use is common (Frechet & Martin, 2011). They are also often embedded to the company's normal working practices. The methods may overlap each other and some of them are more closely linked to the statutory and contractual methods of protection than others (Päällysaho and Kuusisto 2006).

Short innovation cycles can be used to minimize the risk of being copied and to create a lead-time advantage. When launching new products to the market rapidly, the copying will lose its significance, because at the time the rival company has copied the service or product, the new generation of the product has already been launched (Päällysaho and Kuusisto 2006).

Restricted access to information can be used, in addition to using NDA's, by keeping key knowledge in a very narrow circle of employees. The access to the trade secrets can for example be limited only to the key personnel than thus limit the risk of the trade secrets leaking into public (Vapaavuori, 2005). However, restricting access to trade secrets and key knowledge in this way may on the other hand diminish the innovativeness among personnel and also hinder the general atmosphere at the workplace. Also *division of duties* is a commonly used method to ensure none of the employees knows the whole concept of the new product or service (Päällysaho and Kuusisto 2006). This may on the other hand also decrease innovativeness; if the employees do not have an overall picture of what they are doing, it may create frustration and working soon becomes discouraging.

Confidentiality and loyalty building among personnel link closely together with restricted access to information. Forming confidential relationships with employees (as well as business partners and customers) and building loyalty among personnel are powerful tools of protecting innovations and knowledge. The most popular way of loyalty building has unsurprisingly discovered to be financial incentives (Kuusisto & al., 2005). Confidential relationships with employees support innovativeness; when the employees are trustworthy, it may not be so crucial to restrict the access to key information to such a narrow circle of employees and this allows free discussion and exchanging of ideas.

When building confidential relationships with the employees, it must not be forgotten that even the most confidential relationships and loyalty building with personnel becomes irrelevant if the personnel is not aware of the scope of trade secrets. With NDA's it can, of course, be concluded what information is regarded as confidential, but this does not ensure that the employees in fact fully understand the meaning of confidentiality and secrecy. Therefore *informing the personnel* and making sure they understand what they commit to when signing a non-disclosure agreement is crucial.

The meaning of keeping staff informed should not on the other hand be forgotten after concluding the NDA. It would be advisable to remind the personnel of the confidentiality from time to time and perhaps even arrange educational sessions for both, the employees and the management, on the legislation concerning trade secrets and about the significance of the NDA's. High awareness diminishes the possibility that after leaking out a trade secret the employee will claim that she or he did not know that the information in question was a trade secret and hence he or she did not have the right to disclose it. Also it should not be forgotten to update the NDA's if it becomes relevant.

As an alternative to secrecy, the new innovations or ideas can be *published* as widely as possible (Gemser & Wijnberg 2001). Declaring as the father of the idea, the company will gain a competitive advantage, because this may keep the competitors from copying the ideas in fear of the losing their reputation. On the other hand it must be noted that publishing always includes risks, since the confidential information will be disclosed. How, and by whom the idea or innovation will be exploited after that, will not be in the hands of the company any longer.

Complexity of product design is generally used to limit the risks of reverse engineering. Reverse engineering means the process of extracting know-how or knowledge from a humanmade artifact (Samuelson and Scotchmer, 2001). The Supreme Court's precedent KKO 1991:11 is a remarkable case regarding the reverse engineering. The case concerned information which was available in the designs of a hydraulic platform. The plaintiff claimed that the information available in the designs was the company's trade secrets. The Supreme Court held that it is allowable to research products, which are freely available at market, for example by disassembling and analyzing them and to so find out their operational principles. In other words, the reverse engineering is allowable, but by making the product design complex, the company may limit the risks of being copied.

Making the product design complex together with *technical protection* is advisable, if possible. Technical protection can be used for example to fight against illegal copying of software, since the statutory methods of protection are not always adequate for their protection. Technical protection can be realized for example by encryption, code obfuscation, by using security keys and by adding pseudo code to the source code (Päällysaho and Kuusisto, 2006).

Circulation of staff between tasks is a commonly used method of protection in larger companies. By rotating personnel from one task to another it can be ensured that the more employees have key knowledge and skills related to the company's products and processes and thus the company is not dependent on a small circle of key personnel. This is of a particular importance in business sectors where the staff mobility is high (Päällysaho and Kuusisto, 2006). If for example an employee is recruited by a rival firm in a situation where it has been not possible to conclude a non-competition agreement with the employee, the company will "only" face the risk that the rival firm will benefit from the recruitment by gaining the company's know-how, but the company won't suddenly lose the knowledge and skills along with the departure of the employee, because it still has personnel in possession of that same know-how.

If the circulation of staff between tasks is not an alternative, as the case may be especially in smaller companies, the company can limit the risk of losing the key knowledge by efficient *documentation* of processes and ideas (Päällysaho and Kuusisto, 2006). This is also useful when assessed whether the essential elements of trade secret discussed in the chapter 2.2., are fulfilled in cases where no DNA's are concluded and a possible breach of the company's trade secret has occurred.

In addition to these non-legal methods, efficient sharing of information decreases the risk of losing knowledge bound to employees. It usually also increases efficiency and innovativeness. Customer relationship management prevents the knowledge from leaking through customer interaction, and locking-in customers by offering different kinds of incentives and guaranteeing the similar quality standards all over the world is also widely utilized (Päällysaho and Kuusisto 2006, Birk 2006). The list of the non-legal methods presented is by no means exhaustive. It is practical to complement the statutory and contractual methods of protection by non-legal methods and it depends on the type of the company and the type of innovations, what methods are most useful in each case.

CONCLUSIONS

The companies operating in the service business sector have regarded the methods of protection offered by the legislation insufficient. As the legislation concerning IPR has been enacted considering the exclusionary rights, it does not well suit the

needs of the service business sector and hence does not meet the present day needs. The retardation of the legislation creates unnecessary challenges for protecting knowledge and service innovations.

The protection of knowledge and innovations can be enhanced by contractual methods however their use is partly restricted both in employment and in business relationships. Also the nature of knowledge and innovations make them vulnerable to misuse and more often than not, it is not sufficient to rely solely on the statutory and contractual methods of protection, but to strengthen the protection by the non-legal methods.

One alternative would be to review the IPR legislation and to enact new provisions that would better take into account the need of protection for service innovations and knowledge. However, even if new legislation was enacted, it is likely that the companies operating in service and knowledge intensive business sector would still much resort to the non-legal methods.

It can be argued that the non-legal methods may in fact be the most important way of protection when it comes to protecting knowledge and innovations, particularly because of their nature. Even the legal sanctions related to statutory and contractual methods of protection do not always compensate the economic losses, if confidential information leaks out of a company. Since the damages may become irreparable, it would probably not be safe to rely on the statutory and contractual methods alone even if new legislation was introduced.

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