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Introduction

Contemporary management control and reporting both face challenges. Consequently, a new and more sophisticated scientific approach is needed. From one point of view, interdisciplinary studies and theories are necessary. From another point of view, empirical research and practical issues call for a more specific and specialized approach. This complexity is reflected by the content of this book, which covers topics that emerge from present world's complexity. Therefore, the authors focus on ever-important issues (such as the strategic approach and its support by management control and reporting, survival of companies), and more modern issues (e.g. cultural aspects, measurement and reporting adjusted to branches, spheres and organizations and specific issues of management control and reporting).

The strategic approach to managerial control and financial statements and their role for company's survival is presented in papers by J. Dyczkowska (who addresses the question whether annual reports communicate strategic issues and focuses her study on reporting practices of high-tech companies), A. Bieńkowska, Z. Kral, A. Zabłocka-Kluczka (who explain the role of responsibility centers in strategic controlling), P. Kroflin (who explores the value-based management and management reporting examining impacts of value reporting on investment decisions and company value perception) and A. Reizinger-Ducsai (who discusses bankruptcy prediction and financial statements). The problems of management control and reporting and their adjustment to specific conditions and organizations are undertaken by T. Dyczkowski (who introduces his NGO performance model), Z. Kes and K. Nowosielski (who present the case study of the process of cost assignment in a local railway company providing passenger transportation services), S. Łęgowik-Świącik, M. Stępień, S. Kowalska and M. Łęgowik-Małolepsza (who analyse the efficiency of the heat market enterprise management process in terms of the concept of the cost of capital), and M. Pietrzak and P. Pietrzak (who discuss the problem of performance measurement in the public higher education). The cultural aspect of managerial control and reporting is explored in papers written by M. Nowak (who presents cultural determinants of accounting, performance management and costs problems showing the issue from Polish perspective using G. Hofstede and GLOBE cultural dimensions) and P. Bednarek, R. Brühl and M. Hanzlick (who provide a literature overview of planning and cross-cultural research). The specific problems and concepts of managerial control and reporting are investigated by M. Ciołek (who discusses the lean thinking and overhead costs), E. Nowak (who analyses the role of costs control role in controlling company operation), Ü. Päril, R. Koyte,

S. Näsi (who examine middle managers' mediating role in MCS implementation), R.L. Sichel (who discusses the relevance of intellectual property for management control), J. Paranko and P. Huhtala (who analyse the productivity measurement at the factory level).

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INTELLECTUAL PROPERTY. ITS RELEVANCE FOR THE MANAGEMENT CONTROL

PRAWA WŁASNOŚCI INTELEKTUALNEJ. ICH ZNACZENIE DLA CONTROLLINGU

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Summary: This paper analyses the importance of intellectual property rights, especially trademarks, patents, software and know-how transfer for the management of an enterprise. These rights also involve legal question, such as the lawsuit between Apple and Samsung. It also contains the most valuable trademarks of the world and its countries of origin. It provides an estimation of the way these goods are dealt with by an enterprise, even if they are only virtual, by the renewal of the way their business is made such as in the case of Amazon, where all business is virtually closed.

Keywords: trademarks, patents, enterprise, assets.

Streszczenie: Artykuł analizuje znaczenie praw własności intelektualnej, a w szczególności znaków handlowych, patentów, oprogramowania i transferu wiedzy, dla zarządzania przedsiębiorstwem. Własności intelektualne wiążą się również z zagadnieniami prawniczymi, takimi jak w przypadku sprawy Apple vs. Samsung. Omówiono również kwestie znaków handlowych o najwyższej wartości i krajów, z którymi są związane. Przybliżono zagadnienia z obszaru zarządzania prawami własności intelektualnej w przedsiębiorstwach, także tych działających jedynie wirtualnie, oraz zmiany sposobów prowadzenia działalności tak jak w przypadku Amazona, w którym całość działalności jest realizowana w środowisku wirtualnym

Słowa kluczowe: znaki handlowe, patenty, przedsiębiorstwo, aktywa.

*Innovation distinguishes between
a leader and a follower.*

Steve Jobs

1. Introduction

One point that has to be considered in the management accounting of enterprises is the value of immaterial goods. The importance of intellectual property is obvious since it handles not only trademarks and patents, but also copyrights and software protection. It also must be pointed out that trade secret is important in order to prevent a certain competitor to know exactly how a certain product is produced, such as Coca-Cola, or the way an enterprise deals with its clients and even the list of them. There is a variety of ways to manage an asset; the way it is valued that will be important and have significance in the value of a certain company.

This paper deals, first, with the importance of trademarks, pointing out the 20 most valuable brands, dividing them into two groups and considering the origin of their titleholders.

Additionally, patents are taken into account and the responsibility of their owners. Two legal questions are pointed out, one related to the damages paid to the victims of thalidomide and in the second case, the legal question between Apple and Samsung. The proportion of the GDP invested in R&D by the private and the public sector is also discussed.

In the further part, know-how transfer and software are analyzed. Their relevance is considered, especially the variety of forms of how to estimate their value, through different ways and also how they are negotiated. The comparison between NASDAQ and the New York Stock Exchange Market is also taken into account. This contrast confirms the importance of these goods for the management of an enterprise.

The survey in this paper was made by analysing different data which were available in Internet homepages. It also provided an overview of the literature specialized in this topic in order to demonstrate the relevance of the subject related to intellectual property assets and the management accountability of an enterprise.

2. Trademarks

The present analysis begins with trademarks. Therefore, its definition has to be stated. Trademarks are generally used to distinguish the origin of a certain good or service. According to the USPTO, a trademark is generally a word, phrase, symbol, or design, or a combination thereof, that identifies and distinguishes the source of the goods of one party from those of others [USPTO 2014]. As an asset it may have a very high value. A lot of well-known trademarks can be mentioned, such as Coca-Cola, IBM, Microsoft, Facebook, Toyota, Volkswagen, Santander, etc.

In this context a measurement of the value of certain trademark and how it has been changing from one year to another seem to be important. Therefore, it is worth observing the statistic referring to the most valuable brands [Brand Finance 2014].

Table 1. Ten most valuable trademarks

Rank		Logo	Name	Country	Brand Value (USD million)		Brand rating	
2014	2013				2014	2013	2014	2013
1	1		Apple	USA	104.68	87.30	AAA	AAA
2	2		Samsung Group	South Korea	78.75	58.77	AAA	AAA
3	3		Google	USA	68.620	52.13	AAA+	AAA+
4	4		Microsoft	USA	62.783	45.53	AAA	AAA-
5	10		Verizon	USA	53.466	30.73	AAA-	AA+
6	7		GE	USA	52.533	37.16	AA+	AA
7	11		AT&T	USA	45.410	30.41	AA	AA+
8	8		Amazon.com	USA	45.147	36.79	AAA-	AAA-
9	5		Walmart	USA	44.479	42.30	AA+	AA+
10	6		IBM	USA	41.514	37.72	AA+	AA+

Source: Brand Finance [2014].

Table 1 shows the ten most valuable trademarks and it must be pointed out that 9 of them come from the USA and just one from another country (South Korea). It is also interesting to observe that one of them is a virtual company (Amazon.com). Considering the brands from position 11 to 20, the situation changes.

In Table 2 the number of trademarks originated from various countries shows a different proportion and as a result the following table is possible to be made. But, if considered the first twenty positions, the importance of US brands seems obvious, as it represents 12 out of them.

Table 2. The most valuable trademarks (11–20)

Rank		Logo	Name	Country	Brand Value (USD million)		Brand rating	
2014	2013				2014	2013	2014	2013
11	15		Toyota	Japan	34.90	25.98	AAA-	AA+
12	9		Coca-Cola	USA	33.72	34.20	AAA+	AAA+
13	20		China Mobile	China	31.48	23.30	AA+	AA
14	–		T Telekom	Germany	30.61	21.54	AA	AA+
15	14		Wells Fargo	USA	30.24	26.04	AAA-	AA+
16	13		Vodafone	GB	29.61	27.01	AAA-	AAA
17	21		BMW	Germany	28.96	23.24	AA+	AA
18	12		Shell	Netherlands	28.57	29.75	AA+	AAA-
19	17		Volkswagen	Germany	27.60	23.67	AAA-	AAA-
20	22		HSBC	GB	26.78	22.86	AAA	AAA-

Source: Brand Finance [2014].

Table 3. Origin of the twenty most valuable trademarks

Country	Number of trade marks
Germany	3
Great Britain	2
USA	2
China	1
Japan	1
Netherlands	1

Source: Brand Finance [2014].

Table 1 and Figure 2 also show the variety of services or goods related to the different trademarks, including also the sector of electronic commerce. Therefore, the

importance of protecting a trademark seems obvious in order to keep its value, which also means the value of a company.

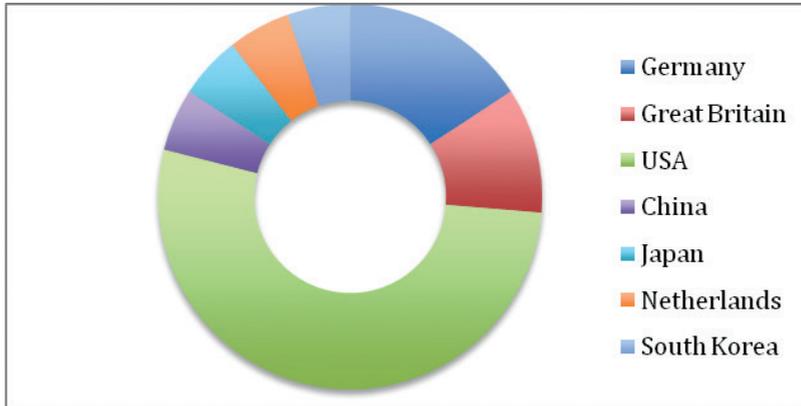


Figure 1. The origin of the most valuable trademarks

Source: Brand Finance [2014].

It is worth mentioning that trademarks are not the only intellectual property goods that may increase their value. This value will be an important index on the enterprise's asset. But on the other hand, it must be pointed out that the use of a brand, which infringes the trademark right of a competitor, may cause the obligation of damage payment. The infringement is an example of violation of the desired ethic that should implement all the acts related to the free competition of goods and services. Its aim is to get a certain advantage by misleading the consumer [Kohler 1919]. This payment can reach more than a million dollars. There are several examples of legal suits related to this topic and I would like to mention the case of Gucci against Guess [Stempel 2012]. According to the US District Court, Southern District of New York no. 09-04373, Guess infringed some trademarks from Gucci. Gucci had "accused Guess of trying to 'Gucci-ize' its product line by selling wallets, belts, shoes and other items whose designs copied or mimicked its own. It claimed that this confused customers and diluted its brand" [Stempel 2012]. Gucci claimed infringement of four signs: "green-red-green stripes, a stylized 'Square G,' a group of four interlocking 'G's known as a 'Quattro G,' and a script logo" [Stempel 2012]. The sentence condemned Guess to pay Gucci US\$ 4.66 million. Although Gucci had asked for a higher compensation, it is important to point out that the infringement of a trademark may cause damage payments.

This situation is also regulated under article 5(2) of the EU Trade Marks Directive 2008/95/EC. In that rule it is established: "Any Member State may also provide that the proprietor shall be entitled to prevent all third parties not having his consent from using in the course of trade any sign which is identical with, or similar to, the trade

mark in relation to goods or services which are not similar to those for which the trademark is registered, where the latter has a reputation in the Member State and where use of that sign without due cause takes unfair advantage of, or is detrimental to, the distinctive character or the repute of the trade mark” [§5.2 of the EU Trade Marks Directive 2008/95/EC].

The infringement procedure takes the protection of the title holder and of the consumer into account. This may be quite sensible in the case of medications. In another case in the USA, Tiffany & Co sued eBay. In this case eBay was accused of trademark infringement for selling counterfeit goods on its website [Vicini 2010]. The US Supreme Court rejected an appeal by Tiffany & Co. The case was considered a major legal challenge in the USA to Internet companies, which had argued that they should not be responsible for users’ trademark violation. The enforcement of trademark rights is also established by TRIPS [Reger 1998].

Therefore, it is possible to conclude that a proper management of assets, such as a trademark, is important. But it should be also stressed that the trademark by itself will not be capable of maintaining an enterprise in business and that very valuable brands were unable to avoid the bankruptcy of its titleholders, such as TWA, Pan American, Arthur Andersen. It must be also considered that a certain brand has an important share of the market because it does not have a competitor. For instance, the telecommunication market in Brazil was based on a State Monopoly, where one brand played an importance rule. By the privatisation telecommunication new trademark appeared but it did not cause any harm for the former State Telecommunication company, which was also privatized, because they managed to maintain an efficient strategy of keeping its intellectual assets well known by the consumer [Kupfer 2002]. It is also based on the traditional definition that all rules related to trade should be clear in order to identify its objective and therefore ensure that all commercial relations are based in a clear and stable pattern [Kohler 1919].

3. Patents

Patents can also be included in the management of an enterprise as a consequence of its importance. According to the USPTO, a patent for an invention is “the grant of a property right to the inventor.” The object of a patent is an invention, normally a consequence of investments made in Research and Development (R&D). R&D is also a change in established technological procedures in order to achieve more efficient products, procedures and also new management methods [Kupfer 2002]. Patents are also of important value for most companies worldwide. According to Hans Verhulst [2016], “benefits can be of technical, economic, social, environmental or service nature. Cost of ownership is composed of price, time and conflict.” There are two alternative and opposed methods of dealing with innovation. The first, which has its origin in 1962, is based on the model of pure competition and monopoly. The second based on the idea of evolution is also known as the selective model. In the

first model the knowledge is an information asset and every actor is able to get it. It also concludes that the market is based on competition and monopoly. In the second model, companies try to get alternatives for the known method by developing new technologies in order to increase their profit [Kupfer 2002]. It also increases the profit by reducing or rationalizing the production costs. As a consequence, innovation procedures are also capable of reducing this type of cost and also improving its production [Pindyck 1994].

The industry involved in this field is relevant to the national economy. In Germany, this kind of industry employs 126,000 workers and in 2008 it had a turnover of EUR 41.5 billion and an income of EUR 27.1 billion. It also represents 64.4% of the goods exported and had an increase of 4% on 2007 [Mandry 2011]. It is therefore important, as a consequence of the world's globalization, that an enterprise organizes itself worldwide. In order to obtain this, it is essential to develop new technologies, not just based on private investment, but also on public policies in order to foment the development of new sectors and also those which are affected by an economic crisis [Pimentel 1999].

One of the most valuable patents is for a medicament (Lipitor), a cholesterol-lowering drug, which expired on June 28, 2011. The revenues in the period between 1997 and 2006 reached a peak of US\$ 12.6 billion [Pelegriano and Associates 2011]. Since 2011 this product is public domain, which enables the generic industries to explore it, which also implicates in an important asset of these companies. Therefore, Pfizer Inc., the titleholder of this patent, has stopped to negotiate new contracts to sell it to health plans [Loftus 2012]. Pfizer Inc. has also taken a few other measures to promote the sales of Lipitor:

“In its effort to wring more sales out of Lipitor, Pfizer spent a total of more than \$87 million on advertising, doctor marketing and samples since it lost patent protection Nov. 30, according to Cegedim Strategic Data. Also, the company arranged to mail pills directly to homes and, starting in December 2010, signed up 750,000 patients who would get as much as \$50 from Pfizer to cover all but \$4 of co-pays. ‘It’s the \$4 coupon that kept brand utilization higher than what you’d normally see,’ said Martin Burruano, director of pharmacy at Independent Health, a health plan in western New York State. By the end of March, 12% of its 10,000 atorvastatin patients were still taking the brand, even though the plan tried to encourage members to choose the generic by giving it a lower co-pay” [Rockoff 2012].

This example indicates that the existence of a trademark by itself will not ensure its value, although the brand is registered in six different ways in the USA (USPTO), in one way in Great Britain and in the European Trademark Office (IPO).

There is also an example, where a certain medicament is brought into the market, with unexpected consequences, which has resulted in damage payments made by its titleholder. It was the case of thalidomide:

“More than thirty years ago, i.e. in November 1961, I have become involved in the history of thalidomide, and up to the present day I have never lost contact with the problem. It is quite impossible to relate in one lecture (to present) the whole complicated story of the initial synthesis of the drug in 1954, of its marketing in 1957, its spread to many countries in Europe, Asia, Australia, America and Africa, and of the following epidemic of malformations of the limbs and of the ears, often accompanied by malformations of the internal organs” [Lenz 1992].

“In some countries, e.g. Belgium, Brazil, Canada, Italy and Japan, thalidomide continued to be sold for several months (after withdrawal of the drug from West German and British markets).

From an increasing number of well documented cases in which the mother had definitely taken thalidomide in early pregnancy it has become possible to delineate the spectrum of malformations attributable to the drug.

These were:

1. Absence of the auricles with deafness.
2. Defects of the muscles of the eye and of the face.
3. Absence or hypoplasia of arms, preferentially affecting the radius and the thumb.
4. Thumbs with three joints.
5. Defects of the femur and of the tibia.
6. Malformations of the heart, the bowel, the uterus, and the gallbladder

On the other hand, it has been possible to recognize types of limb defects which are certainly not caused by thalidomide. The clear distinction of thalidomide from non-thalidomide cases is important for two reasons, first as a basis for recompensation, second for genetic counselling. Affected individuals and their parents have a right to know, whether there is any recurrence risk for children or brothers and sisters of the patients to have the same malformations. In most cases a careful study of the type of malformations will permit a clear and reliable diagnosis, but some doubtful cases remain. In all definite thalidomide cases, children born later following a pregnancy without thalidomide, did not show similar malformations. The same is true for the children of thalidomide victims. In the recompensation scheme, however, thalidomide damage was also acknowledged in some doubtful cases. So far (some) children born to mothers or fathers erroneously acknowledged as thalidomide cases, had similar malformations. I have information on 6 such cases born in Belgium, Bolivia, Russia, Western Germany, England and Japan.

(...)

If thalidomide has been taken throughout the sensitive period, the consequence may be severe defects of ears, arms and legs and of internal malformations, which often led to early death.

About 40 per cent of thalidomide victims died before their first birthday” [Lenz 1992].

In Germany, in 1970, the titleholder of thalidomide (Chemie Gruenthal), which was granted a patent in 1954 (Medical News), had to pay 100 Million German Marks

(about US\$ 33 million) to children with malformations, attributed to thalidomide (Thalidomide). In 1973, as a result of many individual legal suits the damage was individually fixed from 100,000 to 180,000 German Marks (33,000 to 60,000 US\$). By the end of December 1991, a total of 538 Million German Marks (US\$ 336.25 million) had been paid [Lenz 1992] Compensations were also paid in Canada, Italy, Japan, Sweden and Great Britain.

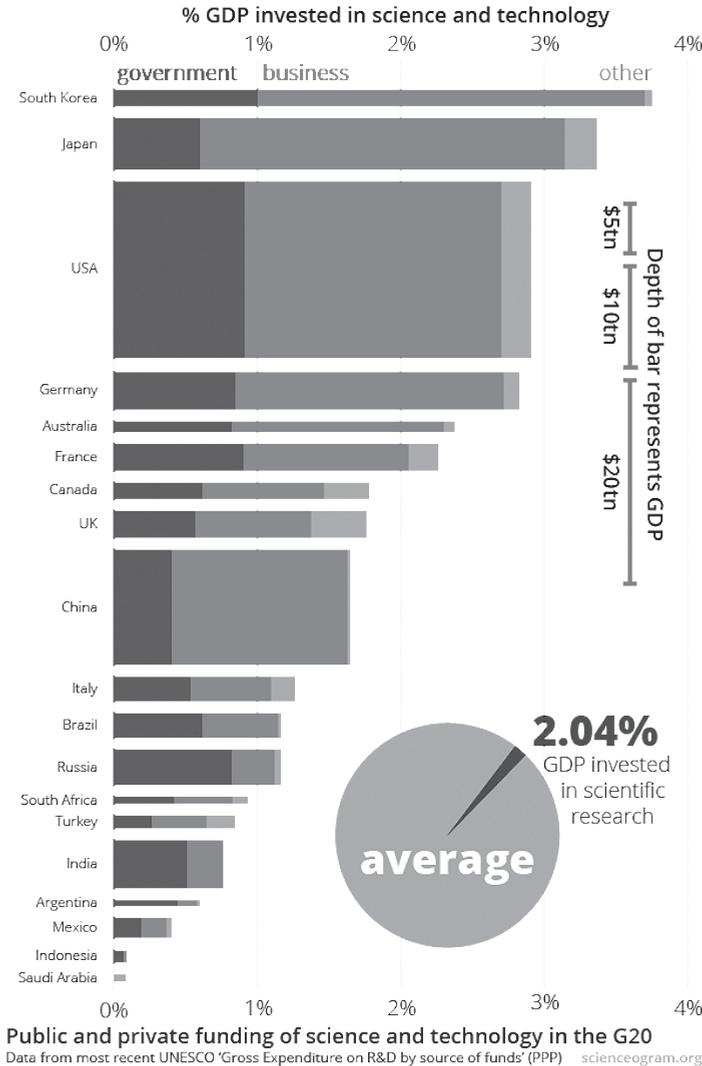


Figure 2. % GDP invested in science and technology

Source: Scienceogram [2013].

In another relevant case Apple Inc. was entitled to an injunction barring Samsung from using certain phone features. Apple claimed that Samsung had violated Apple's patents [The Wall Street Journal 2015]. According to the US Court of Appeals for the Federal Circuit "Samsung's infringement harmed Apple by causing lost market share and lost downstream sales and by forcing Apple to compete against its own patented invention. In a case in San Jose the jury awarded Apple more than US\$ 119 million in damages for infringement by Samsung" [The Wall Street Journal 2015].

Since the patent is a consequence of R&D policies, it is important to consider if the funds come from public or private budgets. Figure 2 shows the situation in G-20 countries [Scienceogram 2013].

It is possible to conclude that in the majority of G-20 countries the private sector is responsible for a greater amount of investments in R&D. According to Scienceogram [2013], it is also possible to conclude:

- "The percentage of GDP invested in research and development varies widely across the world. South Korea is powering ahead at 3.7% of GDP. (And its investment is increasing rapidly, up from 2.8% in 2005.) The UK is below average by most international measures, spending 1.7% of GDP on research. Spending is much lower in the less wealthy G20 member states, although time series data show that many are ramping up investment.
- The private sector forms a large part of the research ecosystem: with the exception of Brazil, Russia, India, Argentina and Indonesia – which make up 18.6% of the GDP on display here – the private sector makes the biggest contribution to national research budgets.
- The US is a global research behemoth, in both the public and private sectors. A healthy percentage of its GDP is sunk into science meaning that, in absolute terms at least, even China won't be competing with it any time soon."

The reason is the value of patents for an enterprise and how the technology used can be explored. The way a certain technology is explored will ensure income, such as the payment of royalties. Consequently the adequate management of these assets is important to assure revenues for the company. But the misuse of patent rights must also be considered by creating a number of files, which are not explored, in order to block new competitors by threatening them by using these inventions (patent trolls) [Stiglitz 2013].

4. Know-how and software

Know-how contracts and the license of patents have a significant importance for the management accountability of an enterprise, where the negotiation of this contract plays an important role. The idea of a patent pool is quite positive, since the technical information, contained in the patent's claim, will be available for all interested actors. One also needs to mention that the protection of software was a relevant discussion during the Uruguay Round, where the possibility of protection according the patent law or in a *sui generis* form was discussed. After the discussion of this topic, the

negotiators concluded that copyright should be protected as a copyright [Stahelin 1999]. It is also important to consider that the US Courts state that the copyright protection is not divisible. This notion is a consequence of the way patent claims are protected.

“When the doctrine of indivisibility was first enunciated the only effective manner in which copyrighted materials could be exploited was through the reproduction of copies. Hence no great hardship resulted from the doctrine that limited assignments to transfers of all rights under the copyright because there was little incentive to reserve rights other than the reproduction right. The subsequently developed media of communications completely altered this situation. Today the value of motion picture rights in a novel will often far exceed the value of the right to publish the work in book form. Moneys derived from performing and recording popular songs are greatly in excess of the value of “copying” such songs in sheet music form (...)

[A]s a matter of commercial reality, “copyright” is now a label for a collection of diverse indivisibility rights each of which is separately marketable. The doctrine of indivisibility did not prevent commercial dealings in such separate rights, but it greatly impeded such dealings, and produced technical pitfalls for both buyers and sellers” [Rokos v Peck 1986].

The consequence was the approval by the Congress of an act abolishing the indivisibility [Blair 2005]. This decision made it clear that it was not possible to have the same way of protection for patent and copyrights, especially if considered the possibility of a certain quantity of patents which are object of a pool of licenses.

According to the USPTO, a patent pool is formed when two or more patent owners agree to license the patent between them [Clark et al. 2000]. First of all, it is important to define international technology transfer. According to A.J. Glass and K. Saggi [2008]:

“International technology transfer (ITT) refers to any process by which a party in one country gains access to technical information of a foreign party and successfully absorbs it into its production process. The importance of ITT for economic development is widely recognized and it has been argued that barriers to technology adoption help explain the income gap between developed and developing countries [Parente and Prescott 1994]. Such barriers include regulatory and institutional constraints that entrepreneurs must overcome, and low levels of human capital” [Dutt, 2008].

Software is also an important asset. The ranking of the most expensive software is from Alux [2014] (see Table 4).

Because of its value for an enterprise, NASDAQ was primarily based in the USA. It is now organized around the globe as a diversified worldwide financial technology, trading and information service provider to the capital markets, with more than 3,500 colleagues serving businesses and investors from over 50 offices in 26 countries across six continents – and in every capital market [NASDAQ 2015]. There are about 3,600 companies with US\$ 8.8 trillion in market value listed. Since NASDAQ is an important market, it is worth noticing how the index by sector is made and compare it with NYSE 100 [Investis 2014]:

Table 4. The ranking of the most expensive software

	Software	Object	Value in S\$
1	CryEngine 3	Develops games	1.2 million
2	Unreal Engine	The software changed the world of gaming, the way that the games used to be made. And now their technology is used to develop the games.	750,000
3	New World Systems Public Administration Software	The software was designed to manage an entire branch of local governments	500,000
4	VXWorks	It is one of the most popular real-time operating systems (is a RTOS) available on the market. Because the software can vary, one common example of how it is used can be seen in HDTV receivers and displays. The hardware relies on the software to read the digital signals, decode them and display them as the data is known.	199,000
5	Image Solutions DocComposer	It lets you add navigation, clean pages and create accurate bookmarks and hyperlinks. It has many other menus and tricks all developed for your own benefit.	122,000
6	Softimage Face Robot	The software that makes possible the movement and the lifelike appearance of the video games characters. So if you are looking on developing a video game, this is the software you buy. While there are numerous possibilities for the facial contortions and expressions most of the designers like to work with Softimage Face Robot.	95,000
7	Core Impact Professional	In the private network security companies because it provides security intelligence solutions. Also it provides management and network penetration testing and service.	50,000
8	Adobe Acrobat Capture	The Capture option allows you to convert volumes of scanned material into searchable PDF files.	20,000
9	Adobe Font Folio 11.1	It has a pack of 2,400 fonts perfect for designing everything you wish for. The price is for the 20-pack just in case you need more than one computer with access.	9,000
10	Inventor	The intuitive 3D mechanical CAD design let you see the prototype in 3D form and has a numerous tricks to help you design everything that's on your mind. Inventor Pro packs in integrated motion stimulation and stress analysis with direct read-and-write utilities for authentic DWG files.	7,295

Source: Alux [2014].

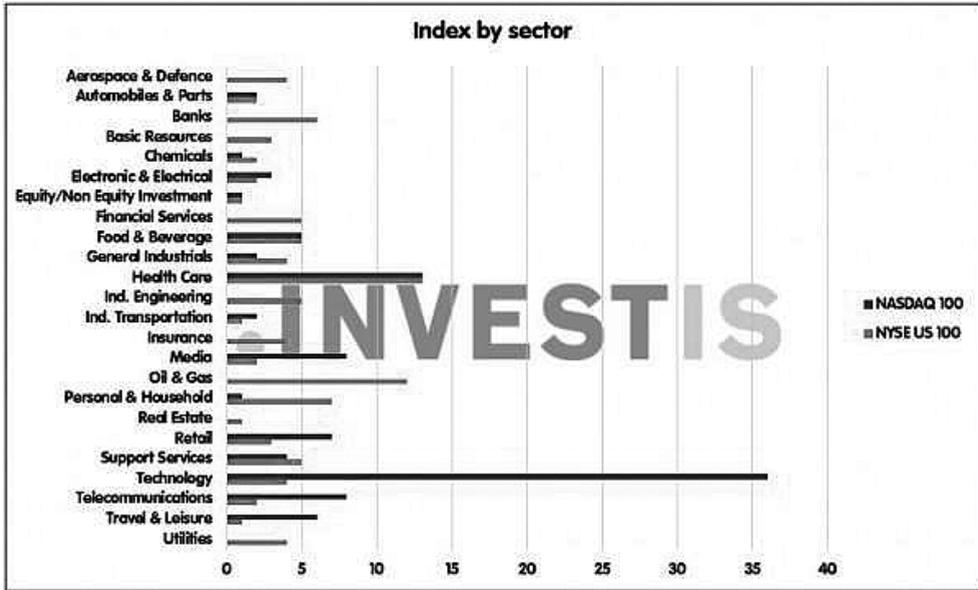


Figure 3. Index by sector

Source: Investis [2014].

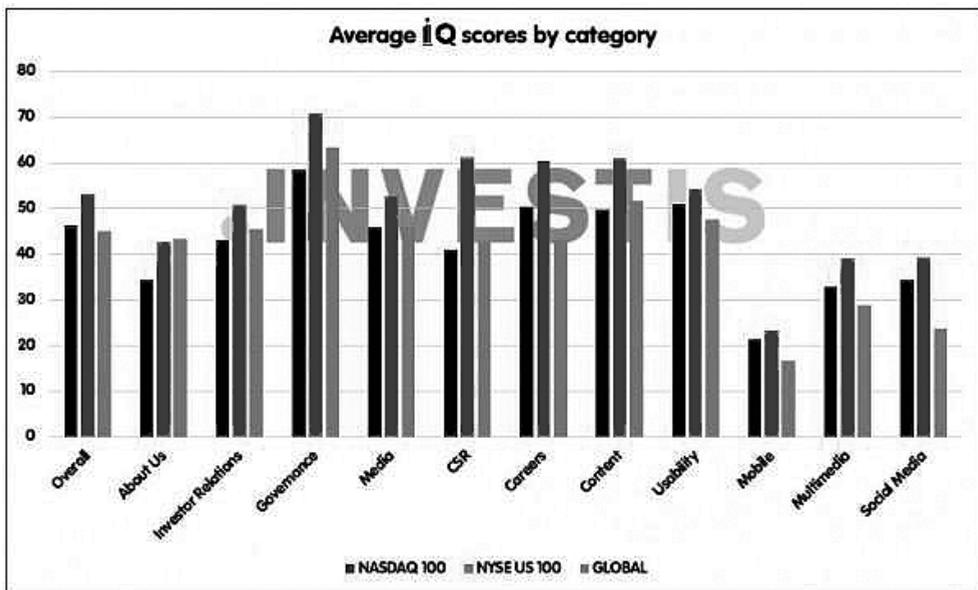


Figure 4. Average iQ scores by category

Source: Investis [2014].

According to the report made by Invest, it is possible to conclude that for the first time this quarter we scored the NASDAQ 100 and the NYSE US 100 – and found that the NYSE companies scored an average of 53%, faring better in areas of investor relations, corporate governance, CSR to name a few (for the complete list, see Figure 4 entitled “Average iQ scores by category”). By contrast, NASDAQ companies scored on average 46% and the index comes last in every category of the eight indices we scored – except for social media, where it beats the FTSE 100 and the Euronext 100.

“379 American companies have been scored in the past year and 1,490 globally. There are, of course, some individual NASDAQ 100 companies that do well, such as Intel (67%) and Qualcomm (65%). However, the overall statistics are damning.

- 11 NASDAQ 100 companies and 25 NYSE US 100 companies are in the top 10% of all US companies scored this year.
- 8 NASDAQ 100 companies and 2 NYSE US 100 companies are in the bottom 10% of all US companies scored this year.
- 6 NASDAQ 100 companies and 15 NYSE US 100 companies are in the top 10% of all companies globally.
- 4 NASDAQ 100 companies and 1 NYSE US 100 companies are in the bottom 10% of all companies globally” [Investis 2014].

This conclusion shows that NASDAQ does not play an important role alone and that there is a competition of these two types of market to implement and develop the companies’ value, which is a result of its technological importance.

Problems, however, were detected since the NYSE 100 outperforms the NASDAQ 100 in every sector [Investis 2014]:

Table 5. NYSE 100 outperforms the NASDAQ 100 in every sector

Automobiles & Parts	24% higher on average
General Industrials	21%
Industrial Transportation	17%

Source: Investis [2014].

The exception in this comparison, so that the NASDAQ 100 has a better global average was in the sector of Electronic & Electrical Equipment, Food & Beverage, Technology and Telecommunications. A possible conclusion we can come to is that the companies of the NASDAQ 100 are not achieving their aims, by not granting their investors and other stakeholders a proper corporate communication. The fact that the protection of software by copyright law enables the titleholder to sue in order to enforce its right and to reestablish the fair competition is also to be considered [Silveira 1998].

5. Intellectual capital and management control of IP assets

In this aspect, IP assets are a part of intellectual capital, because they deal, according to Andrew Kok, with “particular, reasonable knowledgeable and substantial fruits of the mind” [Kok 2007]. It is therefore relevant to understand that IP assets are the conversion of intellectual capital into a valuable asset. In order to maximize the profit gained by this kind of asset it is also important to control it through an efficient management control. Kok [2007] also points out that:

“While many authors use the terms ‘intellectual asset’ and ‘intellectual capital’ interchangeably, there are subtle differences between the meanings of the two. In balance sheet terms, intellectual assets are those knowledge-based items that the organisation owns that will produce a future stream of benefits for the organisation. They are the ‘debits’ or individual items that comprise intellectual assets on the balance sheet, whereas intellectual capital is the total stock of balancing ‘capital’ or knowledge-based equity (‘credits’) that the organisation possesses. Ideally, the total value of intellectual assets should be equal to the total intellectual capital [Lynn 1998]. The distinction between the terms is subtle but not unimportant. Intellectual assets are often intangible assets. They do not have a hard shape like property, for example, or plants and equipment, nor do they have obvious financial value, as do receivables and short-term investments” [Kok 2007].

The reasonable way to manage these assets is the best way to ensure the profit of the investments made. According to Giraud [2011], management control is defined:

“Management control is often seen as a field of ‘numbers expertise’, which is why people often associate it with financial accounting. There are, however, fundamental differences between these two systems. Financial accounting is primarily concerned with external communication and reporting on the overall performance of the company for legal and fiscal purposes, as well as for the financial analysis requirements of third parties. It follows reporting standards for publishing results.

The purpose of management control, on the other hand, is for company executives to formulate strategic objectives and oversee their achievement. It is therefore principally an internal process and is less concerned with measuring results than producing them, which also means defining them upstream. Moreover, the tools that it uses are generally adapted to the specificities of each company (objectives, strategy, structure). Finally, as we shall see, it is not confined to the financial dimensions of performance.”

By management control an enterprise establishes the goals it wants to achieve and these objectives may be obtained as a result of a consequent investment made in R&D in order to develop a new form to act in the market and also predict the possibilities that may occur in the future in a way to plan how the firm will act if a certain fact happens. A proper management control cannot be a result of an analysis based on facts, which are not real or created by the imagination of the leading team. It must therefore be suitable to the kind of decision which is going to be made. The simple

fact of developing a product, software does not mean that it is adequate and that it will be a profitable product or service.

All the efforts should be undertaken in order to develop a new brand, product or service, but the decision to start its production is also a perspective analysis, where the management control of an enterprise is taken into account, by also evaluating the possible difficulties that may appear. It should also consider, in the way concluded by Kok, that “intellectual capital asset and the competitive technology assessments” are a part of a global study in order to centre its strategy [Kok 2007]. As a part of a system, a proper management of an enterprise is not only based in R&D, but by joining this effort by control managing and also using the capital management so the objectives established may be achieved.

6. Conclusion

It is possible to conclude that the intellectual property rights are very important for a reasonable enterprise management. The misuse, in the case of infringing intellectual property rights from other companies may result in the payment of damages and also harm the way the consumer sees a company. It is also obvious that the private sector has an important rule, when considered the amount invested in the countries of G 20. It is therefore a false idea to consider that only the public sector and the public universities are responsible for the majority of the investments made in R&D.

One of the most important tasks of this paper was the analysis of how the relation of intellectual property assets and management accountability is based. On the one hand, it must be considered that these kinds of assets are, if properly dealt with, of great value for an enterprise and even more valuable than the industrial plant itself. But on the other hand, this status may quickly change if the corporation is not properly managed and the consequence is the loss of a significant part of the market share. Therefore it is also possible to conclude that the gained position of a certain intellectual property good is only maintained if its owner constantly keeps the focus on its strategy in order to maintain its importance, which also includes the product and the service related to it.

Intellectual property plays an important part in proper management of an enterprise. The international market and the electronic business, and the way an enterprise manages it in order to achieve better targets by dealing with intellectual property assets must also be considered.

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