



CORA PATENTS

CORAPATENTS A Fundamental Company Rating For SMEs Based On Patent

Intangible assets and company value

An analysis based on different Stock indices

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Intangible assets and company value:

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CoraPatents
A Fundamental Company
Rating For SMEs Based On Patent
Project No. E! 11618

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1. Introduction

Studies¹ show that in the past decades the industry shifted the company value from tangible to intangible assets. The quantification of the intangible assets remains hidden, unless exists a technology how to measure them.

The main aim of the current study was to use Intracom's technology of automated patent valuation and to analyse the share of the intangible assets related to the company value and related to other metrics from the balance sheet.

This analysis was performed for equities in the S&P500, STOXX600 and Nikkei300 index.

¹ Ocean Tomo Study of Intangible Asset Market Value

2. Methodology

Intracom used for the current analysis the patent search and analysis tool “Orbis Intellectual Property” from Bureau van Dijk² which combines company and patent information for intellectual property management and strategy. Orbis IP links 115 million patents on about 300 million companies.

The data selected for analysing the equities listed in the indices was for the year 2019, from balance sheet of the companies:

- Total assets
- Current market capitalisation
- Intangible fixed assets
- Other Intangible Assets

The data was enriched with further 2 datasets:

- Patent values of the alive patent portfolio
- Enterprise value, calculated on multiple of EBITDA of similar companies

Companies which did not deliver appropriate data in their balance sheets were not analysed, therefore the total amount on companies was reduced to:

	S&P 500	Nikkei 300	Stoxx600
Equities listed in index	499	300	596
Equities analysed in this study	378	270	457

The patent valuation was performed by applying the indicator based market analogy method from InTraCoM. Here all patents and utility models are analysed by taking different fixed indicators into account, applying mathematical algorithms and interdependencies. Within the method there are up to 26 indicators used for a full automated patent valuation (Autorating). The indicators cover the fields of Assignee, Environment, Technology and Legals of each IP. Basis for the value calculation are reference values of traded patents in the past (market analogy approach) having a similar indicator pattern to the patent that is valued (reference values)³. The calculated values are an external market view on the patent portfolio. **This means that they do not necessarily have to correspond to income values.**

The market analogy approach also takes the maturity of a patent strongly into account. Patents being close to their end of life (i.e. if the remaining utilization period is only 12 months or less) are decreasing in value disproportionately. This takes into account that a patent that is

² <https://www.bvdinfo.com/en-gb/our-products/data/international/orbis-intellectual-property>

³ Kiehne, D.-O.: Automated patent valuation: background and main questions; Stuttgart, 02.2016; http://www.media.intracomgroup.de/WP-Patentvaluation_with_indicators.pdf

intended to be sold needs a certain time of being transferred and finally utilized by a potential buyer.

3. Results

The shares of the intangible assets related to other assets in the company are as follows:

Index	Ratio: Average Total Intangible assets/ Enterprise value	Ratio: Average Total Intangible assets/ Total assets	Ratio: Average Total Intangible assets/ market capitalisation	Ratio: Average Total Intangible assets/ tangible fixed assets
STOXX600	29%	31%	37%	669%
Nikkei300	23%	18%	29%	126%
S&P 500	24%	34%	31%	499%

This means that on average 20-30% of the enterprise value are based on intangible assets. Related to the market cap the ratio is higher, approx. 30-40% and related to the tangible assets the ratio is in average 130-700% much higher.

The equities in the indices having high ratios for every single key indicator are (Top10):

Index: STOXX600

Total Intangible assets Enterprise value	
NOKIA OYJ	165%
PEUGEOT S.A.	157%
BOLLORE	137%
EXOR N.V.	135%
SPIE SA	132%
MICRO FOCUS INTERNATIONAL PLC	125%
MERCK KGAA	122%
BRITISH AMERICAN TOBACCO P.L.C.	122%
FIAT CHRYSLER AUTOMOBILES N.V.	121%
TECHNIPFMC PLC	117%

Total Intangible assets Total assets	
KONINKLIJKE PHILIPS N.V.	118%
INFORMA PLC	88%
PADDY POWER BETFAIR PUBLIC	88%
BRITISH AMERICAN TOBACCO P.L.C.	85%
RECKITT BENCKISER GROUP PLC	81%
MICRO FOCUS INTERNATIONAL PLC	81%
HEXAGON AB	80%
GVC HOLDINGS PLC	77%
AMADEUS IT GROUP, S.A.	77%

Total Intangible assets Market capitalisation	
TELECOM ITALIA S.P.A.	500%
CASINO GUICHARD-PERRACHON SA	291%
EXOR N.V.	243%
BOLLORE	208%
MERCK KGAA	205%
EIFFAGE	168%
SPIE SA	166%
BRITISH AMERICAN TOBACCO P.L.C.	165%
HERA SPA	154%
REXEL S.A.	150%

Total Intangible assets Tangible fixed assets	
PORSCHE AUTOMOBIL HOLDING SE	36854%
INFORMA PLC	13552%
GVC HOLDINGS PLC	9460%
MICRO FOCUS INTERNATIONAL PLC	9414%
ATLANTIA S.P.A.	9072%
BARRATT DEVELOPMENTS P L C	7691%
KLEPIERRE SA	6520%
WOLTERS KLUWER NV	6155%
RELX PLC	5269%
DELIVERY HERO SE	5248%

Index: Nikkei300

Total Intangible assets	
Enterprise value	
FUJITSU LIMITED	250%
NEC CORPORATION	225%
TDK CORPORATION	202%
BROTHER INDUSTRIES LTD	151%
PANASONIC CORPORATION	143%
NIKON CORPORATION	128%
FUJIFILM HOLDINGS CORP.	127%
HITACHI, LTD.	122%
RICOH CO LTD	121%
CANON INC.	115%

Total Intangible assets	
Total assets	
TDK CORPORATION	162%
BROTHER INDUSTRIES LTD	138%
CANON INC.	121%
FUJITSU LIMITED	104%
OLYMPUS CORP.	94%
PANASONIC CORPORATION	94%
TOKYO ELECTRON LIMITED	78%
NEC CORPORATION	76%
TOKYO OHKA KOGYO CO LTD	68%
FUJIFILM HOLDINGS CORP.	68%

Total Intangible assets	
Market capitalisation	
NIPPON SHEET GLASS CO LTD	264%
TDK CORPORATION	236%
PANASONIC CORPORATION	235%
NEC CORPORATION	199%
RICOH CO LTD	195%
FUJITSU LIMITED	192%
BROTHER INDUSTRIES LTD	165%
KOBE STEEL LIMITED	154%
CANON INC.	134%
HITACHI, LTD.	132%

Total Intangible assets	
Tangible fixed assets	
M3, INC.	3272%
JAPAN EXCHANGE GROUP INC.	1951%
DENA CO LTD	1412%
RECRUIT HOLDINGS CO.,LTD.	948%
BROTHER INDUSTRIES LTD	810%
RAKUTEN INC	798%
SONY CORPORATION	773%
TOKYO ELECTRON LIMITED	751%
RICOH CO LTD	712%
TREND MICRO INCORPORATED	659%

Index: S&P 500

Total Intangible assets Enterprise value	
BAKER HUGHES A GE COMPANY	234%
ALLERGAN PLC	137%
NEWS CORPORATION	135%
DISH NETWORK CORPORATION	132%
DISCOVERY, INC.	129%
TECHNIPFMC PLC	117%
MOLSON COORS BREWING COMPANY	108%
XEROX CORP	105%
COTY INC.	95%
PERRIGO COMPANY PUBLIC LIMITED COMPANY	88%

Total Intangible assets Total assets	
QUALCOMM INC	169%
ALLERGAN PLC	90%
IHS MARKIT LTD.	89%
ANALOG DEVICES INC	89%
BOSTON SCIENTIFIC CORP	88%
ROPER TECHNOLOGIES, INC.	87%
KRAFT HEINZ COMPANY (THE)	87%
CBOE GLOBAL MARKETS INC.	84%
DANAHER CORP	84%
DISH NETWORK CORPORATION	81%
HILTON WORLDWIDE HOLDINGS INC.	81%

Total Intangible assets Market capitalisation	
DISCOVERY, INC.	562%
DISH NETWORK CORPORATION	318%
CENTURYLINK, INC.	291%
KRAFT HEINZ COMPANY (THE)	246%
BAKER HUGHES A GE COMPANY	209%
COTY INC.	197%
MOLSON COORS BREWING COMPANY	187%
ALLERGAN PLC	185%
MYLAN N.V.	169%
CVS HEALTH CORPORATION	164%
NEWS CORPORATION	160%

Total Intangible assets Tangible fixed assets	
ROPER TECHNOLOGIES, INC.	10343%
CBOE GLOBAL MARKETS INC.	5817%
ALLERGAN PLC	5118%
IQVIA HOLDINGS INC.	4091%
ACTIVISION BLIZZARD, INC.	3763%
FLEETCOR TECHNOLOGIES, INC.	3735%
NETFLIX, INC.	3598%
DISCOVERY, INC.	3219%
FIDELITY NATIONAL INFORMATION	3149%
HILTON WORLDWIDE HOLDINGS INC.	3084%
ANSYS INC	2900%

4. Conclusions

A big share of intangible assets in the company value is obvious. Nowadays companies do not need to have high tangible assets to generate big revenues and profits. Uber has no cars, booking no Hotels and twitter no printing machines. The big question remains on how to measure the intangible assets, and if the amount on intangibles a company is claiming in the balance sheet represents a fair market value. An answer to that question can give the measurement of the patent value for each company and the comparison of the ratio to their claimed fixed intangible assets. Of course there has to be defined which companies really need patents for their business models, and which need other intangible assets like trademarks, copyright or intellectual capital. But patents are “the most tangible under the intangibles” and can be monetized due licensing or securitized as collateral. Therefore a bid dive into the patent analysis of a company makes sense and is highly recommended because equities can be determined which are underrated due the fact of the existing “hidden assets” in their company value.

Cora patents project worked on the current analysis in order to determine whether these equities with high hidden intangible asset value perform better in the market then those without. The answer is very clear: for the years 2007-2019 the equities with high patent values overperformed any index which the consortium backtested.

The analysis for the different indices shows the Top 10 with the highest ratio of patent value related to their fixed intangible assets:

Stoxx600

<u>Total patent portfolio value</u> <u>Intangible fixed assets</u>	
ARGENX SE	127385%
SVENSKA CELLULOSA AB SCA	6559%
GALAPAGOS N.V.	3422%
SILTRONIC AG	2060%
THE SWATCH GROUP LTD.	1097%
STMICROELECTRONICS N.V.	811%
PORSCHE AUTOMOBIL HOLDING SE	675%
COVESTRO AG	438%
OSRAM LICHT AG	393%
SBM OFFSHORE N.V.	356%

S&P 500

<u>Total patent portfolio value</u> Intangible fixed assets	
FORD MOTOR CO	1208%
VERTEX PHARMACEUTICALS	1157%
MICRON TECHNOLOGY INC	564%
NIKE INC	559%
NEKTAR THERAPEUTICS	551%
QUALCOMM INC	484%
XILINX INC.	391%
FORTINET INC	390%
ADVANCED MICRO DEVICES INC	351%
VERISIGN INC	281%

Nikkei300

<u>Total patent portfolio value</u> Intangible fixed assets	
TOKYO OHKA KOGYO CO LTD	24736%
SHIN-ETSU CHEMICAL CO., LTD.	7805%
NGK INSULATORS LTD.	6543%
TOKYO ELECTRON LIMITED	5855%
NIPPON SHOKUBAI CO LTD	3324%
DIC CORP.	2933%
YAMAHA CORPORATION	2575%
FANUC CORPORATION	2573%
UBE INDUSTRIES LIMITED	2506%
MITSUBISHI GAS CHEMICAL	2475%