Radosław Pastusiak[*], *Monika Bolek*[**], *Katarina Lyroudi*[***]

INTANGIBLE ASSETS AND FINANCIAL MANAGEMENT DECISIONS ON THE EXAMPLE OF WSE COMPANIES

Abstract. This paper investigates the companies listed on WSE in the context of intangibles and financial management. If a company decides to build its strategy on innovation, it will have to manage the finances according to some rules specific for innovation based entities. The value of a company should grow as a result of joint decisions in the field of innovation and finances. Specifically, this paper investigates the influence of company's intangibles on its liquidity strategy, cash management, profitability, debt capacity and market value. As a result of analysis it has been found that there exist relationships among those factors, indicating that innovation based strategy should be supported by financial decisions that enable the company to increase its value.

Keywords: intangible assets, liquidity, profitability, leverage, value.

JEL: E22, G11, G17

1. INTRODUCTION

In the last twenty years the economy in the most developed countries has shifted from a production to a knowledge based economy. The companies introducing powerful innovations and new technology are at a competitive advantage and can survive and grow on the globalized market.

After the 1990s, the issue of intellectual property has been a point of interest for the researchers in Law and Economics, and specifically in Finance. Intellectual property may be considered as collateral, in order for companies to raise external capital, in addition to the tangible assets they had already been using. Therefore, it has been considered a key element in corporate strategy and management, affecting company valuation and ratings in the stock markets (Candosa et al., 2006, Levy and Jouyet 2006, King 2004, Otsuyama 2003, Pauly 2003, Stewart 1997).

According to Mauboussin and Kawaja (1999) the value of a company is the present value of all the future free cash flows it will generate. Hence, the value

---

[*] University of Lodz, Faculty of Economics and Sociology, Lodz, Poland, rpastusiak@uni.lodz.pl

[**] University of Lodz, Faculty of Economics and Sociology, Lodz, Poland, rychterm@uni.lodz.pl

[***] Hellenic Open University, Patra, Greece, lyrkat@gmail.com

creation for a company depends on its cash, in other words, its liquidity, a most important factor in short term financial management. Mauboussin and Kawaja (1999) used the cash conversion cycle (CCC) to measure the companies' liquidity for the S&P 500 companies and found that the CCC was lower for those companies which placed more value on their intangible assets.

Our objective in this paper is to examine whether the existence of higher number of intangible assets in a company leads to better liquidity position, more profitability, higher debt capacity and an increasing market value. Investments in intangibles should be connected to financial decisions.

In order to achieve our purpose, we have structured this study as follows: Section 2 presents the motivation with a brief literature review and the testable hypotheses; Section 3 describes the data set and the methodology we follow; Section 4 discusses and analyses the results; and Section 5 summarizes the conclusions and outlines the future research directions.

2. REVIEW OF LITERATURE AND TESTABLE HYPOTHESES

Intellectual property can be estimated by the company's intangible assets. Another proxy is the research and development expenses or the software and information technology spending, but these are regarded as costs, while they are actually investments in future growth. In the last 20 years it has been observed that the source of value creation for companies was moving from physical to intellectual capital [Mauboussin and Kawaja (1999)].Companies that use more innovative techniques and apply intellectual capital even to production processes have improved their inventories and receivables management and therefore have improved their liquidity. As intellectual capital replaces tangible capital within a company, eventually it becomes more efficient. Consequently, better management leads to improved working capital level which implies that more cash is available and freed, since the company's liquidity improves.

Cardoza, et al (2006) found that for the S&P 500 firms in the USA, the intangible book value as a percentage of market capitalization increased from an average of 1.6% in 1975, to 3.2% in 1985, to 7.5% in 1995 and to 15.5% in 2005, while the tangible book value as a percentage of the market capitalization of these companies has decreased. Also, the intangible book value as a percentage of total book value for the above companies has grown from 1.9% in 1975 to 43.2% in 2005. It can indicate the trend in business connected to market expectations. Both investors and clients develop their requirements and companies are under pressure to work on innovation.

Academics and practitioners have concentrated on the accurate measurement of liquidity and its effects on the company's value. Since the '80s the cash

conversion cycle (CCC) has been recommended as a more appropriate liquidity measure, because it has dynamic features comparable to the traditional static measures of the current (CR) and quick (QR) ratios (Akgun 2010, Anser 2013, Cagle 2013, Li-Hua Lin 2014, Gentry 1990, Jose 1996, Quayyum 2012, Richards 2013, Wongthatsanekorn 2010, Richards and Laughlin 1980, Kamath 1989, Moss and Stine (1993), Lyroudi and McCarty 1993, Gallinger 1997, Mauboussin and Kawaja 1999). However, some studies such as Lyroudi (2003), Apergis, Lyroudi and McCarty (2004), and Lyroudi and Bolek (2014) have found that all three measures of liquidity should be used by the company's stakeholders since they complement each other.

Since the cash conversion cycle is a dynamic liquidity measure, it can be a very helpful tool for investors to identify problems or opportunities in the stocks they are considering investing in, to form their portfolios (Mauboussin and Kawaja 1999). According to these researchers, the cash conversion cycle can be used as a measure to identify those companies which are successfully replacing their tangibles with intellectual capital. In other words, the cash conversion cycle (CCC) was found lower for those companies that placed more value on their intangible assets.

The capital markets evaluate better those companies with a short CCC and even better those with a negative CCC. In these latter cases, the implication is that the companies lengthen their payables deferral period beyond their receivables and inventory collection periods.

Therefore, the first hypothesis examines the relationship between liquidity, as expressed by the cash conversion cycle (CCC), the current (CR) and the quick (QR) ratios, and the intangible (INTANG) assets of the company. We state that there is a negative relationship between intangibles and liquidity factors, indicating more aggressive liquidity policy performance along with the growing investment in intangibles.

According to Deloof (2001) a company should keep a low level of cash and marketable securities if it is in a good liquidity position. In consequence, if this holds, the more intangible assets the company posesses, the lower the amount of cash it will keep. However, according to Oppler, et al. (1999) a company with high growth, needs more cash for its fast development. A company with more intellectual capital and hence, more intangible assets, is a company with high growth opportunities, more competitive advantages and one which can survive and grow on the globalized markets. We form therefore, the second hypothesis which states that the relationship of intangible assets with cash is positive.

Mauboussin and Kawaja (1999) found that the profitability ratio return on operating assets (ROOA) was decreasing over the years for the S&P 500 companies in the USA. Actually, the asset efficiency was deteriorating, which meant that more assets were needed to generate the same amount of sales revenue. Based on their analysis, the reason for this outcome was the existence

of goodwill that was incorporated in the assets of the underlying firm. These results imply that goodwill was rising over the years and caused the asset efficiency to appear as if decreasing. That result was referring to a developed economy, namely the USA. We can test if this relation also holds for Polish companies. Therefore, the third hypothesis suggests the relationship between the profitability ratios return on assets (ROA), return on equity (ROE), return on operating assets (ROOA) and gross profit (GP) and the company's intangible assets. ROA1 and ROE1 are calculated based on net income, while ROA2 and ROE2 based on gross profit. Based on Mauboussin and Kawaja (1999) we hypothesize that the profitability ratios have been decreasing over time for those companies that carry more intangible assets. Hence we test for a negative relation between the profitability variables and the company's intangibles.

According to Williamson (1988) that companies with more redeployable assets can afford more debt, since they can use the assets as collateral and, therefore, can be financed by debt. Redeployable assets have a low or moderate physical asset specificity. On the other hand, companies that have more non-redeployable assets should be financed by equity capital. Non-redeployable assets have high asset specificity and cannot be easily considered as collateral. Hence, such company cannot afford a high level of debt without an increase in its risk and has a low debt capacity. Also, Long and Malitz (1985) found that companies that invest more in intangibles such as advertising and R&D, have a tighter debt capacity imposed by the market than those which invest more in tangible assets. Combining the inferences of Williamson (1988) and Long and Malitz (1985) we can conclude that the intangible assets in R&D and advertising have poor redeployability properties. Hence, they can be considered as non-redeployable assets and according to the above should also be financed by equity.

The fourth hypothesis suggests the relationship of leverage measures with the company's tangible and intangible assets. Therefore, we derive the testable hypothesis whether companies with more intangible assets carry less debt compared to those with more tangible assets. This hypothesis implies that there is a negative relationship between tangible assets and leverage as expressed by the debt ratio (DR) and the debt to equity ratio (DER). The results of these tests will be helpful guides for managers who will be able to see which variables are affected, if any, by managerial decisions on their company's capital structure and adjust it accordingly to reduce risk and to maximize their shareholders' wealth.

The fifth hypothesis suggests the relationship between market value and the company's intangibles. It allows for a positive relation between the company's intangibles and its market value, since the more intellectual property a company has, the more innovative and competitive it is, which leads to higher growth and in consequence higher stock price and market value.

3. DATA AND METHODOLOGY

To explore the above hypotheses we used a sample of the non-financial companies listed on the Warsaw Stock Exchange from 1997 to 2010. Companies that did not have continuous data for the whole selected period were excluded from our sample. The data we used are annual statement data taken from the Notoria service.

For the examination of the hypotheses we have used the parametric statistical methods such as correlation analysis and regression analysis using the Gretl software.

Regarding the first hypothesis we used the following models:

$$CCC_t = \alpha + \beta\ INTANG_t + \varepsilon_t \tag{1}$$

$$CR_t = \alpha + \beta_1\ INTANG_t + \varepsilon_t \tag{2}$$

$$QR_t = \alpha + \beta_2\ INTANG_t + \varepsilon_t \tag{3}$$

Based on the previous analysis we expect the coefficient β to be negative and significant while the coefficients β_1 and β_2 to be positive in order for this hypothesis to hold.

Regarding the second hypothesis we used the following model:

$$C_t = \alpha + \beta_3\ INTANG_t + \varepsilon_t \tag{4}$$

We expect the coefficient β_3 to be positive and significant in order for this hypothesis to hold.

Regarding the third hypothesis we used the following models:

$$ROA_t = \alpha + \beta_1\ INTANG_t + \varepsilon_t \tag{5}$$

$$ROE_t = \alpha + \beta_2\ INTANG_t + \varepsilon_t \tag{6}$$

$$ROOA_t = \alpha + \beta_3\ INTANG_t + \varepsilon_t \tag{7}$$

$$GP_t = \alpha + \beta_4\ INTANG_t + \varepsilon_t \tag{8}$$

We expect the coefficients β_1, β_2, β_3 and β_4 to be negative and significant in order for this hypothesis to hold.

Regarding the fourth hypothesis we used the following models:

$$DR_t = \alpha + \beta_1 INTANG_t + \varepsilon_t \qquad (9)$$

$$DER_t = \alpha + \beta_2 INTANG_t + \varepsilon_t \qquad (10)$$

We expect the coefficients β_1 and β_2 to be negative and significant in order for this hypothesis to hold.

Regarding the fifth hypothesis we used the following models:

$$MV_t = \alpha + \beta INTANG_t + \varepsilon_t \qquad (11)$$

We expect the coefficient β to be positive and significant in order for this hypothesis to hold.

4. RESULTS AND ANALYSIS

Table 1 presents the descriptive statistics of all the variables in the study. Average values of variables indicate in general the situation on the market..

Table 2 depicts the correlation coefficients for the first, second and fourth hypotheses. Table 3 shows the correlation coefficients for the third and fifth hypotheses. Table 4 depicts the results from the regression analysis regarding all five hypotheses.

Regarding the first hypothesis our results indicate a significant and negative relation between the CCC and the intangible assets of a company at the 10% level, since the correlation coefficient is equal to – 0.055 (0.009) in Table 2 and the regression coefficient is equal to – 0.02996 (t = – 2.63, P-value = 0.009) in Table 4. These findings confirm our hypothesis and imply that the higher the level of intangible assets in a company, the shorter its cash conversion cycle and therefore, the better its liquidity position.

We also tested the relation between intangibles and the static liquidity indicators: the current (CR) and the quick (QR) ratios. However, as it can be seen in Table 2 the correlation coefficients were not significant and neither were the regression coefficients for these two variables, given in Table 4. These two static measures of liquidity had no linear relation with the intangible assets of the company. Hence, for Polish companies the cash conversion cycle was found to be the proper liquidity measure. Our results are in agreement with those of Mauboussin and Kawaja (1999).

Regarding the second hypothesis our results indicate a significant and positive relation of the variable cash (C) with the intangible assets of a company at the 5% level, since the correlation coefficient is equal to 0.595 (0.000) in Table 2 and the regression coefficient is equal to 0.452 (t = 35.24, P-value = 0.000) in Table 4. These findings confirm hypothesis and imply, that the higher the level of intangible assets in a company, the higher the level of cash – the most liquid asset. This in turn implies that the need for cash is significant for financing of innovation and

intellectual capital, without having to rely on external financing. Our results are in agreement with those of Opler, et al. (1999) who found that the faster a company grows, the more its cash holdings are; and the companies with high intangibles, since they represent more intellectual capital, should be growing faster.

Regarding the third hypothesis our results indicate a significant and positive relation between some of the profitability ratios and the intangible assets of the company. Specifically, the return on assets (ROA) in both specifications has a positive and significant relation to the intangible assets of the company at the 10% level with a correlation coefficient equal to 0.062 (0.003) and 0.067 (0.001) respectively for each of the two specifications ROA1 and ROA2 as shown in Table 3. Furthermore, the return on operating assets (ROOA) has a stronger positive relation with the company's intangibles since the correlation coefficient is equal to 0.096 (0.000), significant at the 5% level as shown in Table 3. However, based on the results in Table 4 the regression coefficient for the return on assets in both specifications (ROA1 and ROA2) is not significant, equal to 0.00000006 (t=1.20, P-value=0.230) for the ROA1 and equal to 0.00000007 (t=1.25, P-value=0.211) for the ROA2. Only the return on operating assets (ROOA) is positively and significantly related to the intangible assets at the 10% level, equal to 0.0000006 (t=1.87, P-value=0.061). These findings are in contrast to our hypothesis and imply that the higher the level of intangible assets in a company, the higher its profitability. Or, as the intangible assets increase, the profitability of the also company increases. It means that there is little goodwill in Polish companies compared to US S&P 500.

Our results with those are not in agreement with those of Mauboussin and Kawaja (1999). However, they analyzed USA companies, the most developed market, while we focused on Polish companies in a transition, developing market and this fact might be the differentiating factor. Most probably the reason for the result is that Polish companies do not develop new technology on their own. Moreover, they do not transfer technology directly from external R&D to develop new products but they purchase technology connected to production. There is no competition on the market related to innovation and therefore there is no reason for profitability to decrease.

The other two profitability ratios, the return on equity in both specifications (ROE1 , ROE2) and the gross profit (GP) do not have any linear relationship with the intangibles of the company as it can be seen from the correlation coefficients in Table 3 and from the regression coefficients in Table 4.

Regarding the fourth hypothesis our results indicate a non-significant but negative relation between the leverage indicators such as the debt ratio (DR) and the debt to equity ratio (DER) and the intangible assets of a company. The correlation coefficient is equal to – 0.023 (0.226) for the DR and intangibles and equal to – 0.012 (0.543) for the DER and intangibles in Table 2. The regression coefficient b is equal to – 0.00000004 (t=-1.21, P-value=0.226) for the DR and intangibles and equal to – 0.0000007 (t=-0.61, P-value=0.543) for the DER and

intangibles in Table 4. These findings could confirm our hypothesis but are not significant. Based on Williamson (1988) and Long and Malitz (1985), companies with more intangible assets should carry less debt, since they cannot afford a high degree of leverage without decreasing their risk. Our results in Tables 2 and 4 imply that the level of intangible assets does not have a significant impact on the leverage position of a company.

These findings are very important for the managers who are responsible for the financing decisions of their company, as they may guide them towards the best combination of short and long term debt and equity management? in their company's capital structure. They are also important for the academics involved in the research of this subject.

Regarding the fifth hypothesis our results indicate a significant and positive relation of the market value (MV) with the intangible assets of a company at the 5% level, since the correlation coefficient is equal to 0.713 (0.000) in Table 3 and the regression coefficient b is equal to 0.00016 (t=1.85, P-value=0.064) in Table 4.

5. SUMMARY AND CONCLUDING REMARKS

This study focused on non-financial companies listed in Warsaw Stock Exchange and investigated the relationship between their intangible assets – a proxy of their intellectual capital – and their liquidity, profitability, capital structure and market value. This was done in order to assist management in determining the appropriate strategy for maximizing their shareholders' wealth along with the investment in intangibles. We tested five hypotheses to investigate the above issues.

Our empirical results indicated that there is a negative relation between the intangible assets of a company and its cash conversion cycle. This implies that a company with high levels of intellectual property is in a good liquidity position, having a low cash conversion cycle. We also found that the higher the level of intangible assets in a company, the higher the level of its cash – its most liquid asset. Our results revealed that there is a positive significant relation between the intangibles and the return on operating assets, implying that as the intangible assets increase, the profitability of the company also increases, in contrast to our hypothesis.

Our findings contribute to the existing pertinent literature for the academics in the following ways: First, we shed some light on the issue of intangible assets and their impact on the liquidity, profitability, capital structure and market value of companies in economies in transition and development. The existing studies focused mostly on the developed markets. Second, our results complement the study of Mauboussin and Kawaja (1999) regarding the negative relation between the cash conversion cycle and the intangibles for companies in a developing market. Third, we achieved different results from the ones described in the known literature regarding the relation of

intangible assets and profitability. This can be investigated further and more in depth in a future study. Fourth, our findings confirmed the latest practice and the empirical results of Ozdemir et al. (2012) regarding the fact that companies with more innovative opportunities use intellectual property and the proxy of intangible assets as collateral to increase their debt capacity in developing markets. Fifth, we found that the existence of more intangible assets increases the value of the underlying company.

We can conclude that once a company decides to build its value on innovation it will have to be connected with a more aggressive working capital management. Also, such decision will influence the cash management, profitability, debt capacity and value creation within the company. Financial managers in growing companies should be conscious of the fact that this type of business requires specific financial decisions and, especially, that companies belong to investors who continually assess their performance on the exchange.

The results of our study have implications for the practitioners, company managers and finance officers as well as company stakeholders, especially in developing markets.

Table 1

Descriptive Statistics

Variables	N	Mean	Minimum	Median	Maximum	Standard Deviation
CCC	2414	–21.4	–1363.6	21.2	8860.8	603.32
CR	2414	2.69	0.006	1.53	56.578	8.96
QR	2414	1.82	–1.949	1.09	56.578	8.82
C	2414	39606	0.000	3341	3595851	210835
ROA1	2414	0.013	–7.881	0.035	3.714	0.256
ROA2	2414	0.057	–7.961	0.047	4.601	0.309
ROE1	2414	–0.379	–8.959	0.065	0.988	0.098
ROE2	2414	–0.171	–5.453	0.091	3.047	0.354
GP	2414	1.251	–5.819	1.022	86.401	2.764
ROOA	2414	0.044	–3.119	0.049	3.074	0.169
DR	2414	0.417	0.000	0.382	5.887	0.308
DER	2414	1.324	–0.932	0.218	3.207	0.264
INTANG	2414	40059	–687636	3621	4682034	256640
TANG	2414	74982	105	105662	39428056	307014
MV	2414	681420591	0	42209600	39760000000	3025125259
Stock Price	2414	34.57	0.01	13.15	2668.5	107.17

Source: Own calculations

Table 2

Pearson Correlation Coefficients for Hypotheses 1, 2 and 4

Variables	CCC	CR	QR	C	DR	DER
INTANG	−0.055* (0.009)	−0.023 (0.272)	−0.021 (0.312)	0.595** (0.000)	−0.023 (0.226)	−0.012 (0.543)

* Statistical significance at the 10% level .
** Statistical significance at the 5% level .
The first number is the Pearson Correlation Coefficient.
The second number is the (p – value).

Source: Own calculations

Table 3

Pearson Correlation Coefficients for Hypotheses 3 and 5

Variables	ROA1	ROA2	ROE1	ROE2	ROOA	GP	MV
INTANG	0.062* (0.003)	0.067* (0.001)	0.007 (0.751)	0.008 (0.698)	0.096** (0.000)	−0.021 (0.339)	0.713** (0.000)

* Statistical significance at the 10% level .
** Statistical significance at the 5% level .
The first number is the Pearson Correlation Coefficient.
The second number is the (p – value).

Source: Own calculations

Table 4

Regression Analysis for the 5 Hypotheses

Depend. Variable	Indepen. Variabl	Coeff.a	Coeff. b	t–stat	P–value	Adj.R^2	D–W
1	2	3	4	5	6	7	8
H$_1$: CCC	INTANG	11578	−0.02996**	−2.63	(0.009)	0,6%	1.65
CR	INTANG	3.8546	−0.0000014	−0.52	(0.601)	0%	1.81
QR	INTANG	3.3621	−0.0000013	−0.51	(0.610)	0%	1.81
H$_2$: C	INTANG	19543	0.452**	35.24	(0.000)	34.7%	1.24
H$_3$: ROA1	INTANG	0.0118	0.00000006	1.20	(0.230)	0.1%	1.94
ROA2	INTANG	0.0595	0.00000007	1.25	(0.211)	0.1%	1.86

1	2	3	4	5	6	7	8
ROE1	INTANG	0.0575	0.000000001	0.42	(0.671)	0.0%	1.36
ROE2	INTANG	0.0078	0.000000001	0.58	(0.559)	0.0%	1.43
ROOA	INTANG	0.0492	0.0000006*	1.87	(0.061)	0.2%	1.83
GP	INTANG	1.12	−0.0000011	−0.55	(0.584)	0.0%	0.57
H_4: DR	INTANG	0.4468	−0.00000004	−1.21	(0.226)	0.1%	0.74
DER	INTANG	1.4527	−0.0000007	−0.61	(0.543)	0.1%	2.04
H_5: MV	INTANG	34.849	0.00016*	1.85	(0.064)	0.2%	1.63

* Statistical significance at the 10% level
** Statistical significance at the 5% level.

Source: Own calculations

REFERENCES

Akgun M., Gurunlu M. (2010), *Cash to Cash Cycle as an Integral Performance Metric in supply Chain Management: A theoretical Review*, "The IUP Journal of Supply Chain Management", vol. VII, No. 1&2.

Anser R., Malik Q. (2013), *Cash conversion cycle and firms profitability – a study of listed manufacturing companies of Pakistan*, IOSR Journal of Business and Management, Volume 8, Issue 2.

Apergis N., Lyroudi K., McCarty D. (2007), *The Role of Liquidity in Terms of Profitability and Indebtness: A Panel Cointegration and Causality Approach*, "Asian-African Journal of Economics and Econometrics"*, vol. 7 (1–2), p. 1–19.

Cagle C., Campbell S., Jones K. (2013), *Analyzing Liquidity. Using the cash conversion cycle*, "Journal of Accountancy", vol. 5.

Deloof M. (2001), *Belgian Intragroup Relations and the Determinants of Corporate Liquid Reserves*, "European Financial Management*", vol. 7, (3), pp. 375–392.

Deloof M. (2003), *Does Working Capital Management Affect Profitability of Belgian Firms?*, "Journal of Business Finance and Accounting", vol. 30, (3–4), pp. 573–588.

Gallinger G. (1997), *Drop the Current Ratio – Pick Up the CCC*, Business Credit.

Gentry J.A., Vaidyanathan R., Hei Wai Lee (1990), *A weighted cash conversion cycle*, "The Journal of the Financial Management Association", vol. 19, Issue 1.

Jose Manuel L., Lancaster C., Stevens J.L. (1996), *Corporate Returns and Cash Conversion Cycles*, "Journal of Economics and Finance"*, vol. 20, no. 1, p. 35–48.

Kamath R. (1989), *How Useful are Common Liquidity Measures?*, "Journal of Cash Management", pp. 24–28.

King K. (2004), *The Value of Intellectual Property, Intangible Assets and Goodwill,* http://www.wipo.int/sme/en/documents/value_ip_intangible_assets.htm (accesed: 10.10.2015).

Levy M., Jouyet J-P. (2006), *L'économie de Γ immatériel: La croissance de demain*, Rapport de la Commission sur Γ Économie de Γ Immatériel, Ministère de Γ Économie, des Finances et de I' Industrie, République Française.

Li-Hua L., Szu-Hsien L., Yi-Min L. (2014), *The analysis of company liquidity using, CCC application: evidence from Taiwan*, "Global Conference on Business and Finance Proceedings", vol. 9, no. 1.

Long M.S., Malitz I.B. (1985), *Investment Patterns and Financial Leverage*, in : *Corporate Capital Structure in the United States,* University of Chicago Press, pp. 325–352.

Lyroudi K. (2003), *The Construction Industry in Greece: A Study of the Companies' Liquidity*, presentation at the *2003 Academy of Economics and Finance 30*[th] *Annual Meeting,* 13–15 February 2003, in Savannah, Georgia, USA.

Lyroudi K., Bolek M. (2012), *An Investigation of the Companies' Liquidity and the Factors Affecting it: The case of Poland*, presentation at the *2012 Multina-tional Finance Society* 19th *Annual Conference*, June 24th-27th 2012, Krakow, Poland.

Lyroudi K., McCarty D., *An Empirical Investigation of the Cash Conversion Cycle of Small Business Firms*, "Journal of Small Business Finance", vol. 2(2), 1993, p. 139–161.

Mauboussin M.J., Kawaja S.G. (1999), *Atoms, Bits and Cash*, [in:] *Credit Suisse First Boston Corporation Report,* pp. 1–29.

Moss D.J., Stine B. (1993), *Cash Conversion Cycle and Firm Size: A Study of Retail Firms*, "Managerial Finance"*,* vol. 19, issue 8, pp. 25–34.

Opler T., Pinkowitz L., Stulz R., Williamson R. (1999), *The Determinants and Implications of Corporate Cash Holdings*, "Journal of Financial Economics"*,* vol. 52, p. 3–46.

Otsuyama H. (2003), *Patent Valuation and Intellectual Assets Management*, [in:] Samejima M. (ed.*) Patent Strategy Handbook*, Chuo Keizaisha, Tokyo.

Ozdemir H., Karan M., Arslan-Ayaydin O., Ulucan A. (2012), *How is the Firm Performance Related with R & D Innovations?*, *Presentation at the 2012 Multinational Finance Society* 19th *Annual Conference,* June 24th-27th 2012, in Kracow, Poland.

Papaioannou G.J., Strock E., Travlos N. (1992) *Ownership Structure and Corporate Liquidity Policy*, "Managerial and Decision Economics"*,* vol. 13, pp. 315–322.

Pauly D. (2003), *Mining Intellectual Property for Profits,* CEP magazine, December 2003, www.cepmagazine.org (accessed: 10.10.2015).

Quayyum Sayeda T. (2012), *Relationship between Working Capital Management and Profitability in Context of Manufacturing Industries in Bangladesh*, "International Journal of Business and Management" vol. 7, no. 1.

Richards V.D., Laughlin E.J. (1980), *A Cash Conversion Cycle Approach to Liquidity Analysis*, "Financial Management", pp. 32–38.

Soenen L.A. (1993), *Cash Conversion Cycle and Corporate Profitability*, "TMA Journal και Journal of Cash Management"*,* pp. 53–57.

Stewart T.A. (1997), *Intellectual CAPITAL, The New Wealth of Organizations,* Nicholas Brealey Publishing Ltd., London, UK.

Williamson O.E. (1988), *Corporate Finance and Corporate Governance*, « Journal of Finance »*,* vol. 43, (3) : 567–591.

Wongthatsanekorn W. (2010), *Study of Cash-to-Cash Cycle Management on Profitability of Private Hospital in Thailand by Regular and Panel Data Regression Analyses*, « Proceedings of the World Congress on Engineering and Computer Science » vol. II, WCECS 2010, October 20–22, San Francisco, USA.

Radosław Pastusiak, Monika Bolek, Katarina Lyroudi

AKTYWA NIEMATERIALNE I PRAWNE A DECYZJE FINANSOWE NA PRZYKŁADZIE FIRM NOTOWANYCH NA GPW

Streszczenie. W artykule analizowane są przedsiębiorstwa notowane na GPW z uwzględnieniem wartości intelektualnych prawych i decyzji finansowych. Jeśli przedsiębiorstwo decyduje się budować strategię związaną z innowacjami, powinno zarządzać finansami w sposób specyficzny dla tej grupy przedsiębiorstw. Wartość przedsiębiorstwa powinna się zwiększać jako rezultat skoordynowanych decyzji w obszarze innowacyjności i finansów. W artykule tym badane są relacje pomiędzy wartoscią aktywów niematerialnych i prawnych w firmie a strategią zarządzania płynnością, zarządzaniem gotówką, zyskownością, pojemnością zadłużeniową i wartością rynkową. Zależność pomiędzy tymi czynnikami wskazuje, że strategia oparta na innowacjach powinna być wspierana decyzjami finansowymi, które prowadzą firmę do wzrostu wartości.

Słowa kluczowe: Aktywa niematerialne i prawne, płynność, zyskowność, zadłużenie, wartość.