

## Smart Digital Attack As an Acceleration Drive of Firm Value Creation in Digital Era

Dhiantanti Mei Rahmawantari<sup>1\*</sup>, Bambang Purwoko<sup>2</sup>, Suratno<sup>3</sup>

<sup>123</sup>Universitas Pancasila, Jakarta, Indonesia

\*Correspondence Author's Email: [dhiantanti@unkris.qc.id](mailto:dhiantanti@unkris.qc.id)

### Abstract

*This study aims to examine and investigate the determinants of firm value creation in this digital era, focused on the role of financial literacy as a moderating variable. As the shifting of outside investor perspectives occurred on which key elements can drive accelerated firm value creation in this digital era, business leader should objectively appraise their potential strengths and weaknesses aspect to maximize value creation within their company, so its risk profile will reducing as well. This research resulted a concept called "Smart Digital Attack" in which the position of information technology and financial literacy is central in optimizing firm value in this digital era. The research used quantitative secondary data which is taken from the selected listed retail trading companies annual financial reports at Indonesia Stock Exchange for 2017-2021 period. Descriptive statistic test were also used using Eviews9 software. The research show that only firm leverage have a direct significant effect on its value creation, while other independent variable were not. Moving forward from that, financial literacy successfully managed to moderated the relationship between firm investment decision to its value creation. This research shows the central role of financial literacy as a based for better investment decision, along with optimizing the function of information technology in the company it self to accelerate the value creation.*

**Keywords:** *Smart Digital, Financial Literation, Information Technology, Firm Value, Investment Decision.*

### Abstrak

Penelitian ini bertujuan untuk menguji dan menyelidiki faktor-faktor penentu penciptaan nilai perusahaan di era digital ini, dengan fokus pada peran literasi keuangan sebagai variabel moderasi. Ketika terjadi pergeseran perspektif investor luar mengenai elemen-elemen kunci yang dapat mendorong percepatan penciptaan nilai perusahaan di era digital ini, para pemimpin bisnis harus secara objektif menilai potensi aspek kekuatan dan kelemahan mereka untuk memaksimalkan penciptaan nilai dalam perusahaan mereka, sehingga profil risikonya juga akan berkurang. Penelitian ini menghasilkan sebuah konsep bernama "Smart Digital Attack" yang mana posisi teknologi informasi dan literasi keuangan menjadi sentral dalam optimalisasi nilai perusahaan di era digital ini. Penelitian ini menggunakan data sekunder kuantitatif yang diambil dari laporan keuangan tahunan perusahaan dagang ritel terpilih yang terdaftar di Bursa Efek Indonesia periode 2017-2021. Uji statistik deskriptif dilakukan dengan menggunakan software Eviews9. Hasil penelitian menunjukkan bahwa hanya leverage perusahaan yang berpengaruh signifikan langsung terhadap penciptaan nilai, sedangkan variabel independen lainnya tidak berpengaruh signifikan secara langsung. Selanjutnya, literasi keuangan berhasil memoderasi hubungan antara keputusan investasi perusahaan dengan penciptaan nilainya. Penelitian ini menunjukkan pentingnya peran literasi keuangan sebagai landasan pengambilan keputusan investasi yang lebih baik, serta optimalisasi fungsi teknologi informasi dalam perusahaan itu sendiri untuk mempercepat penciptaan nilai.

**Keywords:** *Smart Digitack, Literasi Keuangan, Informasi Tekhnologi, Nilai Perusahaan, Keputusan Investasi*

### Article History:

Submitted: May 17, 2026

Revised: May 26, 2026

Accepted: May 29, 2026

## **INTRODUCTION**

The key for a company to retain its investors, both shareholders and creditors, is to create and realizing its own value. Technological disruption and the Covid19 pandemic have had an impact on company performance, a study by the Employment Planning and Development Agency (Bareng Naker) in 2020 found that 47.4% of respondents stated that their company was losing money and as many as 40.6% of respondents said it was very lossy, this forced companies to taking a progressive and appropriate strategy in the existing conditions to be able to increase the value of the company. At this time, the creation of firm value is no longer sourced from within the company, but how external company factors such as the network owned by the company can create and increase corporate value (inverted firm). Technological disruption has given rise to the phenomenon of rapidly growing companies with new business models, although only a small proportion of these new companies can boost company value to get fresh funds. Changes in people's lifestyles and shopping patterns as one of the phenomena due to technological disruption have had a real impact on the growth of the modern retail industry in Indonesia, where the industry is one of the large-scale industries that significantly contributes to economic growth. Indonesia recorded positive growth on a year on year (yoy) basis with an FMCG market value of 8.8% in the third quarter of 2020 ([www.tradingeconomics.com](http://www.tradingeconomics.com)). Aspects of a company valuation are closely related to the development of various companies with new business models, the point of view of investors in assessing a company is currently no longer based on only fundamental aspects but there are other determinants such as economy of scale, ecosystem, economic moat, financial literacy and others which have an impact on increasing investors' assessment of the company's valuation.

In recent years specifically, researchers, financial institutions and policy makers have also focused their attention on the issue of financial literacy to improve the quality of investment decision making, where the implications will be seen in increasing company value (Kumari, 2017; Lusardi, 2019), adequate financial literacy will increase the ability of a financial manager to solve financial problems as it often known as Financial IQ. The sample in this study are selected retail trading company which listed on the Indonesia Stock Exchange for 2017-2021 periode, those company's are chosen by the controlled specific requirements and considering that retail trading industry as one of the drivers for economic growth, this research periode represent conditions before pandemic Covid19 and the beginning of PSBB relaxation as the businesses start to reopening. Based on the points of financial management, Stakeholder Theory (Jensen, 2001) suggests optimizing stakeholders prosperity in the long term by maximizing corporate value as its investment decision is one of the key factors that affects it, as well as the efficient level of company's leverage (Jouida, 2018) and availability of cash flow liquidity (Porras and Mateo, 2011). On those basis, the focus of this research is to find out what are the key factors in assessing firm value on this

digital era and what steps that company can take to increase the value of their companies.

Based on the these background, the aims of this study to examine and investigate the determinants of firm value creation in this digital era, focused on the role of financial literacy as a moderating variable.

## **LITARATURE REVIEW**

### **Two-Sided Network**

Geoffrey Parker explained the concept of two-sided markets which is a refinement of the network effect concept promoted by Katz and Shapiro (1985), where the concept is an economic platform consisting of two different groups and mutually beneficial between one another and the network that is owned, if it consists of more than two different affiliated parties then it is called a multi-sided platform. Platforms are closely related to networking effects, relatively new start-up companies such as Go-Jek or Airbnb have high valuations due to the large number of users who participate and take advantage of the platform so that a bigger network effect is created and the value per transaction increases in the company. This modern business platform will reduce transaction costs, but information technology will reduce the need to own physical infrastructure and assets, so that the main asset of a business platform is the network of producers and consumers within it (Alstyne & Parker, 2017).

### **Modigliani-Miller (M&M) Theorem**

The theory that developed in the 1950s had a significant impact on corporate finance, this theory states that the market value of a company is precisely said to be the present value of the level of future profits along with the underlying assets, and is separate from its capital structure. The M&M proposition taking into account taxes appears in The Trade-off Theory of Leverage which identifies that tax benefits arise in interest payments, where interest payments for borrowed funds are a component that can reduce corporate tax payments, this is different from dividend payments.

This theory argues that companies must create value for all stakeholders, not just shareholders, and describes which parties the company must be accountable for its business activities (Freeman and Reed, 1983). The results of research conducted by Harrison and Wicks (2013) explain that in stakeholder theory, the main way of thinking that must be owned by managers is to prioritize the concept of cooperation rather than creating a potential conflict between stakeholders and the company.

The free cash flow hypothesis, which was first put forward by Jensen (1986), explains the opportunistic behavior of managers of a company that has free cash flow. The performance of managers in companies that have a large amount of free cash flow will be below the minimum limit for optimal performance, as well as not being optimal in utilizing the free cash flow, so that in the free cash flow theory it is explained that the high amount of free cash flow will trigger managers to choose projects that have the potential to be detrimental so that in the end it will reduce the utility of a company's assets. The results of research conducted by Ni et al., (2019) explain more clearly that cash inflows from operational activities cannot increase company value,

but the results show that cash inflows come from financing activities and cash outflows for investment activities can increase the value of the company.

### **Behavioral Economics**

Phrase of behavioral economics being used to describe rational choice theory, which explained the idea that people always respond rationally and maximize self benefits, it also explain how people make decisions and respond to market forces (Becker, 1974). Behavioral economics also assists consumers by bringing to light their inner biases and decision-making processes, it allows people to be more aware of the limitations, motivations and causes of their actions. Richard Thaler that being considered as “Father of Behavioral Economics” revealed that there are “anomalies” in human behavior, it cannot be described through standard economic theory and people are influenced by their environment, past experiences, also emotional and mental states (Gino, 2017). He also challenged the belief that people are rational human beings with stable preferences who always maximize profits and minimize losses. Investors demand accounting information to mitigate information asymmetry and agency conflicts, on the other side, managers supply accounting information based on a cost-benefit analysis that maximizes their own utility. Behavioral biases from traditional economic models do not necessarily mean that these behaviors are irrational, it might well explains that the existing economic models are not fully descriptive of human behavior (Lo, 2017). Adopting behavioral assumptions can help us understand and predict the decision making of not only small investors, but also highly trained professionals in a competitive business environment like finance managers (Malmendier, 2018).

### **Leverage, free cash flow, information technology and company's value**

Firm value can also be described as investors' perception of the company's level of success in managing its resources and is associated with stock prices (Widodo & Kurnia, 2016). Finance is one of the key resources owned by the company, analysis of historical company financial data which is often referred to as fundamental analysis is very closely related to profitability ratios, activity ratios, leverage ratios and market ratios which will be useful for predicting the level of company profits (Tamimia, 2011). One of the fundamental analysis activities is to investigate and analyze how a company can have an optimal capital structure in carrying out its operations, this is closely related to leverage ratios and funding decisions which will ultimately increase the value of the company (Prasetyo et al., 2017). Each type of company that is in a different industry has a different target debt ratio, increasing the amount of debt will reduce taxes, but when the increase in the amount of debt causes the company to be negligent in paying its obligations, bankruptcy costs will arise (Benkraiem and Gurau, 2013). Firm value is influenced by growth opportunity, capital structure and liquidity (Nurlia et al., 2019) where growth opportunity is a company's growth opportunity in measuring its performance while in the same type of industry.

The free cash flow hypothesis put forward by Jensen (1986) states that having excess free cash flow can trigger conflict between owners and company management which will ultimately have an adverse impact on company performance and value,

some research results are in line with the hypothesis these include the research of Lakheb and Sli, (2017); Hou (2017). The managers of a company with an excessive amount of free cash flow will tend to show below-optimal performance (Ang et al., 2000). While there are also those who argue the contrary that with an excess of free cash flow, the performance and value of the company can increase because there is an opportunity to expand the business, as stated in the research results of Ambreen and Aftab (2016).

Technological advances also have an impact on company investment decisions by affecting investment costs and income, while these advances affect company income in the future, in the long term it will protect the company from volatility in demand for the company's products (Flor and Hansen, 2011). Information technology is defined as a computer device used to store, retrieve, send and process data (Turban, Pollard & Wood, 2018). There are many situations where information technology systems fail to achieve satisfactory reciprocity and are not optimal in increasing company value, this is because the information technology system is not accompanied by the required complementary investments (Cao, 2010), so it is important that the company is serious about make the right investment decisions by utilizing existing information technology systems so that a sustainable increase in corporate value can be realized.

### **Company's investment decision and company's value**

One of the most difficult decisions for company management in carrying out its business activities is an investment decision because it will have an impact on company value (Vranakis and Prodromos, 2012). aimed at increasing the prosperity of investors, corporate expenditures for investment provide a positive signal for the company's prospects in the future. The results of research conducted by Cahyono and Sulistyawati (2017); Prasetyo et al., (2013) proved that company's investment decisions have a positive impact on firm value, where these results also support the signalling theory that investment spending by companies will reflect projected company performance in the future, so rising stock prices will usually be used as an indicator. of company value. The purpose of investment decisions is to get maximum profit with manageable risks in the hope of increasing firm value (Afzal and Rohman, 2012). But the results of research conducted by Rinnaya et al., (2016) explain that investment decisions do not affect firm value.

### **Company's investment decision, financial literacy and company's value**

In terms of making investment decisions, there are currently many studies that link this to the level of financial literacy, both at a basic level and at a more advanced level (Gallery, Gallery, Brown, Furneaux & Palm, 2011). Financial behavior (Fitriarianti, 2018) and perception of risk (Bushra, Rahila, Iqbal, & Somia, 2012) will influence an investor in making investment decisions. Financial behavior is influenced by several factors including adequate financial literacy (Robb & Woodyard, 2011), different perceptions of certain situations (Natapura, 2009), financial knowledge (Mien & Thao, 2006) and financial attitudes (Herdjiono & Damanik, 2016).The research results of Doran, Peterson and Wright (2010) found that a finance professor's understanding of

market efficiency and optimal investment strategies cannot help him when creating his own portfolio, unless he continues to upgrade his financial knowledge so that it remains relevant to the dynamics of the financial industry in the real world.

In Indonesia, the National Financial Literacy Survey (SNLIK) has so far been conducted four times by the Financial Services Authority (OJK), namely in 2013, 2016, 2019 and 2022. The 2022 survey results have increased from 2019 results where the financial literacy index increased from 38,03% to 49,68% and the financial inclusion index increased from 76,19% to 85,10%. But specifically in the capital market financial sector, the results of the 2022 survey show that this sector needs to get more attention, despite there's a slightly increasing percentage of capital market literacy become 4,92% from 4,11%. The making of company's Investment decisions cannot be separate completely from capital market condition. The low level of financial literacy is a warning to the world of education (Scott, 2010), because future generations of young people not only have to face increased complexity in financial products but they tend to have to bear more financial risks in the future than their parents. previously (Lusardi et al., 2010), in the end financial literacy will affect almost all aspects related to planning, spending, and individual financial behavior, this is in line with the results of research (Robb & Woodyard, 2011) which found that financial literacy subjectively and objectively will affect financial behavior. So that financial literacy is thought to be able to strengthen the quality of the company's investment decisions in achieving its goals, namely increasing the value of the company so that shareholder prosperity can be realized.

## **METHODS**

This study aims to analyze the impact of leverage, free cash flow and information technology, partially, on company's value. Company's investment decision is being put into this research as a mediating variable to mediate the relationship between each independent variable on company's value. At last, a direct impact of company's investment decision on company's value also being tested and the presence of financial literacy as a moderating variable to moderated the relationship between both of those variables

### **Population and Sample of the Research**

The population in this research were all Retail and Trading Sector listed company's at Indonesia Stock Exchange . The sampling technique of this research was purposive sampling. The criteria for this research were companies that periodically reported comprehensive financial statements and annual reports during the 2017 until 2021 period, companies that presented complete financial reports and records a positive free cash flow, also companies that booked positive net profits in the research years. From these criteria we obtained 80 samples of data to be researched.

### **Data Collection Technique**

The method used in collecting the data was the documentation method which collected secondary data from three different sources, which are company's

comprehensive financial report from Indonesia Stock Exchange website, Financial Literation Index at *Otoritas Jasa Keuangan* (OJK) and Information Technology Development Index and Communication at International Telecommunication Union (ITU).

### Data Analysis Method

Descriptive statistical analysis is an analysis that convey information about the existing data, but its not intended to test the hypotheses. It also provides a general description of each research variable characteristics that can be seen from the average, maximum and minimum values.

The aim of this model test is to selecting the best model from a set of data used to perform multiple regression analysis with criteria (Winarno, 2015). Series of model test that being used in this research were:

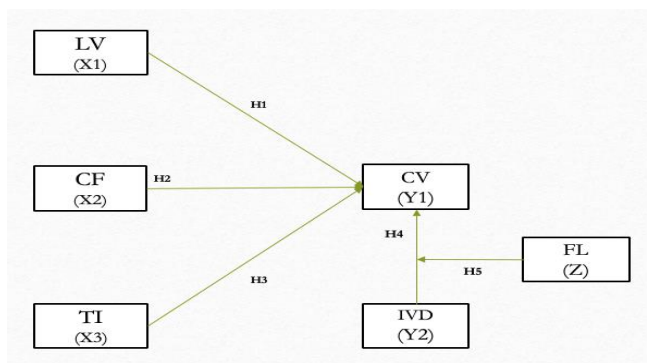
- a. Chow test (Ho=Common Effect Model;H1=Fixed Effect Model)
- b. Hausman test (Ho=Random Effect Model;H1=Fixed Effect Model)
- c. Lagrange Multiplier test (Ho=Common Effect Model;H1=Random Effect Model)

To test the impact of the independent variables on dependent variable, the regression coefficient is needed. Ho will be accepted under the conditions of wald statistic < chi square and probabily value (sig.) > 0.05, this also mean that Ha is rejected. On the other point, Ho will be rejected when the condition showed that wald statistic > chi square and the probabily value (sig.) < 0.05, it also reflect that Ha is accepted (Ghozali, 2016). All data result were processed by E-Views9, 2021.

### Hypothesis

- H1 : Company's leverage have a significant impact on company's value in this digital era.
- H2 : Company's free cash flow have a significant impact on company's value in this digital era.
- H3 : Information technology have a significant impact on company's value in this digital era.
- H4 : Company's investment decision have a direct impact on company's value in this digital era.
- H5 : Financial literation moderated company's investment decision on company's value in this digital era

### Framework



**Figure 1.** Theoretical Framework

## RESULT AND DISCUSSION

### Result

a. Regression test for leverage, free cash flow, information technology and firm value was estimated using Random Effect Model as Breusch-Pagan value was > than sig. 0.05.

**Table 1.** Lagrange Multiplier Test

Lagrange Multiplier Tests for Random Effects

	Cross-section	Time	Both
Breusch-Pagan	0.025243 (0.8738)	5.107265 (0.0238)	5.132508 (0.0235)

**Table 2.** Regression Coefficient Test 1

Dependent Variable: LOG(CV)

Method: Panel EGLS (Cross-section random effects)

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.266686	1.209907	-0.220418	0.8262
LOG(LV)	-0.259938	0.103852	-2.502958	0.0145
LOG(CF)	0.019949	0.054008	0.369375	0.7129
LOG(IT)	-0.217806	0.110531	-1.970541	0.0525

Log (LV) has a significant impact on the dependent variable because it has an absolute t-count value of -2.502958 > from a t-table of 2.14479 and a probability value of 0.0145 < the sig. 0.05, and has a standard error value close to zero (0) of 0.103852. This variable moves in the opposite direction to the dependent variable, so that if there is a one-unit increase (decrease) in the leverage variable it will decrease (increase) the firm value by 0.259938, this result indicates that Ho is rejected and H1 is accepted. Log (CF) has no significant impact on firm value because it has a probability value of 0.7129 > from sig. 0.05 with an absolute t-count value of 0.369375, this result indicates that Ho is accepted and H2 is rejected. While Log (IT) also has no significant impact on firm value as evidenced by the t-count absolute value of -1.970541 and a probability value of 0.0525 > the sig. 0.05, and this variable has a standard error value of 0.110531, this indicates that Ho is accepted and H3 is rejected.

b. Regression test for company's investment decision and firm value was estimated using Common Effect Model as Breusch-Pagan value was < than sig. 0.05

**Table 3.** Lagrange Multiplier Test

Lagrange Multiplier Tests for Random Effects

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	7.353762 (0.0067)	496.6192 (0.0000)	503.9730 (0.0000)

**Table 4.** Regression Coefficient Test 2

Dependent Variable: NP

Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IVD	-3709340.	1321024.	-2.807927	0.0063
C	1729220.	167352.2	10.33282	0.0000

Table 4 showed that partially the company's investment decisions have a significant impact on firm value with a prob(F-statistic) value of 0.0063 < sig value. 0.05. The correlation coefficient value indicates a negative relationship between the two, so that if there is a one-unit increase (decrease) in the company's investment decisions, it will cause a decrease (increase) in firm value by an absolute value of 3709340, it also concluded that Ho is rejected and H4 is accepted.

c. Regression test for company's investment decision, firm value and financial literacy was estimated using Common Effect Model as Breusch-Pagan value was < than sig. 0.05.

**Table 5.** Lagrange Multiplier Test

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	8.511010 (0.0035)	503.2262 (0.0000)	511.7372 (0.0000)

**Table 6.** Regression Coefficient Test 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4719948.	288021.4	-16.38749	0.0000
IVD	4606657.	2237888.	2.058484	0.0430
FL	199021.2	9380.105	21.21737	0.0000
IDFL	-169959.1	75719.69	-2.244583	0.0277
R-squared	0.960395	Mean dependent var	1309599.	
Adjusted R-squared	0.958832	S.D. dependent var	702490.2	

The magnitude of the impact of a company's investment decisions on firm value moderated by the level of financial literacy can be presented in table 6, the relationship between the two remains significant with a probability value of 0.0277 where < the sig level. 0.05, but this model is very feasible as reflected by the adjusted R2 value of

0.958832 or 95.88%, based on these results it can be stated that  $H_0$  is rejected and  $H_5$  is accepted.

## **Discussion**

### **Analysis of the impact of leverage on firm value.**

The results partially show that only the leverage variable has a significant direct impact and moves in the opposite direction to firm value. These results contradict the results of research conducted by Welley and Untu (2015) where partially the level of leverage does not have a direct impact on firm value, but different results are shown if it is combined (simultaneously) with other variables which in this study are free cash flow and information technology, then the results will turn out to be significant for firm value. The results of this study also contradict the results of the study of Daud et al., (2016) where the level of leverage has no significant impact on performance and firm value, in their explanation they emphasize that the characteristics of a country's capital market will have a different impact on the relationship between the level of leverage and firm value, a developed country (developed) will have a stronger capital market structure compared to a country that is still developing (developing) so that the demand for capital financing will be much greater than debt financing. The results of this study indicate the opposite of the concept of M&M capital structure theory where firm value is directly affected by the company's capital structure policy, possibly this is because the characteristics of the industry and the business climate have changed in recent times, more and more bank and non-bank financial institutions are providing alternative funding for company operations with debt financing schemes that are mutually beneficial to both parties. While the results of this study generally confirm the facts shown by Mansourlakoraj & Sepasi (2015) where leverage has a significant impact on firm value, they differ in terms of movement in direction where their research explains that with an increase in the level of leverage, firm value will also increase, while the results of this study explain the opposite.

### **Analysis of the impact of free cash flow on firm value.**

The results of the regression test show that free cash flow does not have a direct impact on firm value. Free cash flow is a major consideration for investors in investing their capital in the company, besides that projecting future cash flows is a fundamental thing that must be done to carry out valuation and investment analysis of the company (Krishnan & Largay, 2000). While the results of research conducted by Mansourlakoraj & Sepasi (2015) explain facts that contradict the results of this study where free cash flow has a direct positive impact on company performance and value, companies that have a large amount of free cash flow must optimize its use in investments that have the potential to increase company value or distribute it directly to shareholders through dividend distribution. A large amount of free cash flow within a company has the potential to cause a decrease in the effectiveness of manager performance due to the tendency to over-investment which is explained in the free cash flow theory . Abughniem et al., (2020) confirmed in the results of their research that although free cash flow has a significant impact on company performance and value, the relationship

between the two is in the opposite direction. Meanwhile, by allocating dividends, the company prioritizes optimizing shareholder wealth in line with stakeholder's theory.

### **Analysis of the impact of information technology on firm value**

The results of the regression test in table 2 showed that information technology does not have a direct impact on firm value. As Jamali et al., (2013) in his research stated that expenses from information technology have a positive impact on firm value through another factor, namely growth, although in his research it appears that information technology factor is the second factor that has an impact after productivity, so the results of this study support the explanation that information technology does not have a direct impact on firm value. The contribution of information technology to increasing growth, productivity, and reducing production costs for companies in developing countries has also been proven from the research results of Khanna & Sharma (2022). The impact of information technology on growth and company value is always through other supporting factors because the basic characteristics of information technology are as a driving and complementary aspect of an activity. In signaling theory (Michael Spence, 1973), when companies provide relevant information signals to users of financial statements or investors, the impact of this information is sometimes not immediately felt without going through other factors that can strengthen the distribution of this information. If information technology cannot be utilized and managed properly by the company, it will not have any impact on company value. Information technology assists companies in innovating, adapting and responding quickly to consumers, by making the right investment decisions in technology development within the company, information technology will have a central role in determining competitiveness and increasing corporate value for shareholder prosperity, through the digitalization process companies will be able to carry out many innovations, especially in the production flow process, this supports the results of research conducted by Campbell (2012), and Ludipa et., al. (2018). Developing investments in information technology in a focused and sustainable manner by companies and organizations can also help companies achieve productivity so as to avoid Solow's Paradox.

### **Analysis of the impact of company's investment decision on firm value**

The link between investment decisions and firm value has been widely studied through various aspects (Hatem, 2015), where the explanation for both appears in the discussion of agency theory and asymmetrical information theory which emphasizes that the main elements in a firm value are cash flow, growth opportunities, company profitability, company size and company debt structure (Dogan, 2013). Maximizing company value is the main requirement for maximizing the wealth of company shareholders (Nguyen et al., 2019; Ibrahim, 2020; Ety et al., 2020), in stakeholder theory (R. Edward Freeman, 1984) previously explained that a company is not just an entity that operates for its own interests but must have the ability to provide benefits to its shareholders. Investors will place their investment funds in companies that have high value, so that company value is a measure of investor perceptions related to the level of company quality (Sujoko & Soebiantoro, 2017). The regression results in table

4 showed that investment decisions made by companies have a direct impact on the formation of firm value, this is in line with the results of research conducted by Cahyono & Sulistyawati (2017) which state that investment decisions are long-term capital placement decisions related to the expected level of profit that will be generated by the company.

### **Role of the financial literacy as a moderating variable in the relationship of company's investment decision and firm value**

The regression model in table 6 showed that after adding other factors, namely financial literacy, among others, there is a surge in the measurement value which illustrates that financial literacy is able to strengthen the impact of company investment decisions on company value. Literacy can be defined as the ability to read and write with appropriate knowledge and competence in certain areas (Atkinson, 2017), while Klapper et., al. (2012), Lusardi (2013) explain specifically where financial literacy is a combination of awareness, knowledge, expertise, attitudes and behavior needed to make a financial decision and ultimately achieve financial stability individually. According to the Indonesian Financial Services Authority (2014). Financial literacy level of a financial policy holder will have an impact on the level of financial inclusion in terms of finding and using financial products and services from external parties (Hieltjes & Petrova, 2013). In complex financial market conditions, a financial decision maker will be very vulnerable to asymmetric information if not equipped with adequate financial literacy (Barte, 2012). The results of this study support the explanation above that with the presence of financial literacy, the quality of financial decisions that are mainly related to company investment policies will also be of higher. In this study it was found that in the process of creating a company value in this digital era, information technology doesn't have any direct impact on firms value because its basic characteristics as an complementary aspect, but it cant be ignored for further research that may covered the possible variable needed to mediate in between. Based on the study of research results, a concept was formed which can be called "Smart Digital Attack" as a phenomenon which explains that optimizing the value of a company in this digital era must combine two key factors, namely information technology and financial literacy. The word "Smart" which means smart reflects the quality of investment decisions made by a financial manager with deep financial literacy, because adequate financial literacy will increase an individual's ability to make financial decisions where this concept is called Financial IQ.

### **CONCLUSION**

Financial literacy is considered as one of the key factors that can improve the quality of financial managers in making a company investment decision to increase company value, especially in this digital era where there is a lot of information and various alternatives to financial products and services, a financial manager who is well literate in making investment decisions will be able to minimize the company's overall financial risk. From the partial measurement results it can be seen that only leverage has a direct impact on firm value where this result is not in line with Modigliani & Miller's

capital structure theory and its assumptions, the theoretical concept explains that assuming a perfectly competitive market and the existence of corporate taxes, the condition that occurs is that the higher the leverage of a company, the better the firm value, while the results of this study explain that the higher the leverage level of a company will cause a decrease in firm value. This difference in results can be due to differences in the characteristics of the industry in which the company is located. While the other two independent variables, namely free cash flow and information technology, don't have a direct impact on firm value. The results of this study resulted in one concept called Smart Digital Attack, this concept explains that optimizing the value of a company in this digital era must combine two key factors, namely information technology and financial literacy to be able to continue to survive and develop so as to increase the value and productivity of the company, this will prevent the company from getting stuck in Solow's Paradox.

## REFERENCES

- Abughniem, Manal Sulieman; Al Aishat, Mohammad Adnan; Hamdan, Allam (2020). Free Cash Flow and Firm Performance: Empirical Evidence from the Amman Stock Exchange. *International Journal of Innovation, Creativity and Change*. [www.ijicc.net](http://www.ijicc.net). Volume 10, Issue 12, 2020.
- Ambreen, S., & Aftab, J. (2016). Impact of Free Cash Flow on Profitability of Firms Listed in Karachi Stock Exchange. *Euro-Asian Journal of Economics and Finance*, 4(4), 113–122.
- Ang, J. S., Cole, R. A., & Lin, W. J. (2000). Agency cost and ownership structure. *Journal of Finance*, 55, 81–106.
- Atkinson, A. (2017). Financial Education for MSMEs and Potential Entrepreneurs. *OECD Working Papers on Finance, Insurance and Private Pensions* OECD Publishing, Paris. doi:10.1787/bb2cd70c-en
- Barte, R. (2012). Financial literacy in micro-enterprises: the case of Cebu fish vendors. *Philippine Management Review*, 19.
- Becker, G. S. 1974. A theory of social interactions. *Journal of Political Economy* 82 (6): 1063-93.
- Benkraiem, R. dan C Gurau. 2013. How do corporate characteristic affect capital structure decisions of French SME's?. *International Journal of Entrepreneurial Behaviour & Research* 19(2):149-164.
- Bushra, R., Rahila, N., Iqbal, A., & Somia, G. (2012). Neuropharmacological Screening of the *Iyengaria Stellata* Revealed Its Memory Boosting, Anxiolytic and Antidepressant Effects. *International Research Journal of Pharmacy*, 3(10), 90–94.
- Cahyono, H. S., & Sulistyawati, A. I. (2017). Keputusan investasi, Keputusan Pendanaan dan Kebijakan Dividen Sebagai Determinan Nilai Perusahaan. *Jurnal Akuisisi*, 13(1), 39-53.
- Campbell, M. (2012). What a Difference a Year Makes: Time Lag Effect of Information Technology Investment on Firm Performance. ISSN: 1091-9392
- Daud, W. M. N. W., Norwani, N. M., Mansor, A. A., & Endut, W. A. (2016). Does Financing Decision Influence Corporate Performance in Malay- sia?. *International Journal of Economics and Financial Issues*, 6(3), 1165– 1171.

- Dogan, M. (2013). Does firm size affect the firm profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, 4(4), 53–59.
- Etty at al., (2020). The role of internal factors in determining the firm value in Indonesia. *Journal of Accounting* 6 (2020) 665–670.
- Fitriarianti, B. (2018). Pengaruh Literasi Keuangan, Perilaku Keuangan dan Pendapatan Terhadap Keputusan Berinvestasi. Seminar Nasional I, Universitas Pamulang.
- Flor, Christian Riis. Hansen, Simon Lysbjerg. (2011). Technological Advances and The Decision to Invest.
- Herdjiono, I., & Damanik, L. A. (2016). Pengaruh Financial Attitude, Financial Knowledge, Parental Income Terhadap Financial Management Behavior. *Manajemen Teori Dan Terapan*, 1(3), 226–241.
- Hieltjes, E. H., & Petrova, E. (2013). The impact of financial literacy and transaction costs on bank account uptake and use: A Randomized Controlled Trial in Ethiopia. Master's Thesis in Economics Fall.
- Ibrahim, U. A. (2020). Effect of Financial Leverage on Firm Value: Evidence From Selected Firms Quoted on the Nigerian Stock Exchange. *European Journal of Business and Management*, 12(3), 124–135.
- Jamali, Mohammad Ali; Nor, Nor Ghani Md; Voghouei, Hatra (2013). The Role of Information Technology on the Growth of Firms: A Value Added Consideration. *Journal of Theoretical and Applied Information Technology*, November 2013, Vol.57, No.3. ISSN: 1992-8645, E-ISSN: 1817-3195.
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow , Corporate Finance , and Takeovers. *The American Economic Review*, 76(2), 323–329.
- Jouida, S., (2018) Diversification, capital structure and profitability: A panel VAR approach. *Research in International Business and Finance*, 45, pp.243-256.
- Klapper, L. F., Lusardi, A., & Panos, G. (2012). Financial Literacy and the Financial Crisis. *National Bureau of Economic Research*, 1–55.
- Klapper Leora, Lusardi Annamaria and Van Oudheusden Peter, 2015, "Financial Literacy Around the World: Insights from the Standard and Poor's Ratings Services Global Financial Literacy Survey", S&P GLOBAL FINLIT Survey.
- Krishnan, G. V., & Largay III, J. A. (2000). The predictive ability of direct method cash flow information. *Journal of Business Finance & Accounting*, 27(1-2), 215-245.
- Kumari, D. A. T. (2017). Financial literacy: An essential tool for empowerment of women through financial inclusion – literature review" *Equality and Management*. Poland: Faculty of Economics and Management, University of Szczecin.
- Lachheb, A., & Slim, C. (2017). The Impact of Free Cash Flow and Agency Costs on Firm Performance. *International Journal of Management and Applied Science*, 3(7), 94–101.
- Lo, A. W. (2017). Reconciling Efficient Markets with Behavioral Finance:, 0920(617). Retrieved from <https://www.semanticscholar.org/paper/Reconciling-Efficient-Markets-with-Behavioral-Lo/5f00896bbf9afb7725f9ae3bd62b48d3c317c247>
- Ludipa, Olin Meisa; Rahayu, Rita; Juita, Verni (2018). Pengaruh Investasi Teknologi Informasi Terhadap Kinerja Perusahaan. *Jurnal Kajian Manajemen Bisnis*, 7(1) 2018, 40-48. ISSN: 2302-6359; e-ISSN: 2622-0865.
- Lusardi, A., Mitchell, O. S., & Curto, V. (2010). Financial Literacy Among the Young: Evidence and Implications for Consumer Policy. *SSRN Electronic Journal*, 1–35. <https://doi.org/10.2139/ssrn.1459141>

- Lusardi, A., & Mitchell, O. S. (2013). The economic importance of financial literacy. *Journal of Economic Literature*, 52, 65.
- Lusardi, A., Michaud, P., & Mitchell, O. S. (2013). Optimal financial knowledge and wealth inequality. National Bureau of Economic Research Working Paper No.18669.
- Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of Economics and Statistics*, 155(1), 1-8.
- Mansourlakoraj, Roya; Sepasi, Sahar (2015). Free Cash Flow, Capital Structure and The Value of Listed Companies in Tehran Stock Exchange. *International Journal of Management, Accounting and Economics*, Vol 2 No.2, February 2015. ISSN 2383-2126 (Online).
- Mien, N. T. N., & Thao, T. P. (2006). Factors Affecting Personal Financial Management Behaviors: Evidence from Vietnam. In *Proceedings of the Second Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences* (Vol. 47, pp. 327–328). <https://doi.org/10.1161/01.HYP.0000200705.61571.95>
- Natapura, C. (2009). Analisis perilaku Investor Institusional dengan Pendekatan Analytical Hierarchy Process (AHP). *Bisnis & Birokrasi, Jurnal Ilmu Administrasi Dan Organisasi*, 16(3), 180–187.
- Nguyen, V. C., Nguyen, T. N. L., Tran, T. T. P., & Nghiem, T. T. (2019). The Impact of Financial Leverage on The Profitability of Real Estate Companies: A study from Vietnam Stock Exchange. *Journal of Management Science Letters*, 9(Special Issue 13), 2315– 2326.
- Niebel. T., (2018). ICT and economic growth-comparing developing, emerging and developed countries. *World Dev.* (104) April. 197-211.
- Nurlia, D. Sakuntala, M. Maduwu, E. Sijabat, A. M. Manurung, O. Pakpahan, dan M. Nainggolan. 2019. Analisis Determinan Nilai Perusahaan Sub Sektor Kimia yang Terdaftar di Bursa Efek Indonesia. *Sainteks* 2019:99-105.
- Prasetyo, Dimas et.al. 2013. "Pengaruh Keputusan Investasi dan Keputusan Pendanaan terhadap Nilai Perusahaan". *Fakultas Ilmu Administrasi Universitas Brawijaya*.
- Prasetyo, F. E., F. Swandari, dan D. M. Dewi. 2017. Pengaruh Profitabilitas, Pajak, dan Growth Opportunity Terhadap Nilai Perusahaan Melalui Struktur Modal Sebagai Variabel Intervening. *Jurnal Wawasan Manajemen* 5(1) : 51-62.
- Robb, C. A., & Woodyard, A. S. (2011). Financial knowledge and best practice behavior. *Journal of Financial Counseling and Planning*, 22(1), 60–70.
- Scott, R. H. (2010). Credit Card Ownership Among American High School Seniors: 1997-2008. *Journal of Family and Economic Issues*, 31(2), 151–160. <https://doi.org/10.1007/s10834-010-9182-7>
- Sujoko, & Soebiantoro, U. (2017). Pengaruh Struktur Kepemilikan, Strategi Diversifikasi, Leverage, Faktor Intern dan Faktor Ekstern Terhadap Nilai Perusahaan (Studi Empirik Pada Perusahaan Manufaktur dan Non Manufaktur di Bursa Efek Jakarta). *EKUITAS (Jurnal Ekonomi Dan Keuangan)*, 11(2), 236.
- Vranakis, Stergios K., Chatzoglou, Prodromos D. (2012). A Conceptual Model for Machinery&Equipment Investment Decision. *International Journal of Business and Management*, Vol 7 No.1; January 2012.
- Widodo, P.M.R., & Kurnia, K. (2016). Pengaruh Keputusan Investasi, Pendanaan, dan Kebijakan Dividen terhadap Nilai Perusahaan. *Jurnal Ilmu dan Riset Akuntansi*, 5(1).