

Sticky cost determinants: Which one has the stronger impact?

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ARTICLE INFO

Article history

Received 5 December 2021

Revised 13 May 2022

Accepted 3 June 2022

JEL Classification:

M41

Key words:

Sticky Cost,
Covid-19,
Tangible and Intangible Resources,
Management Incentives,
Profitability

DOI:

10.14414/tiar.v12i2.2825



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ABSTRACT

Sticky cost is a phenomenon that can occur in companies and it is an unbalanced response of costs to changes in output. Since it can reduce company profits, it should not occur. Therefore, it is important to know the determinants that influence it so that the company can control properly reducing it. The aim of this research is to test which the determinants that have the impact of Covid-19, asset intensity, employee intensity, equity intensity, management incentives, profitability, and intellectual capital on sticky cost. This research is a quantitative research with object of manufacturing companies listed on the Indonesia Stock Exchange with observation period of 2019-2020. This research uses financial data from annual report and summary of minutes General Meeting of Shareholders. The sample selection technique used purposive sampling method. This research involved two data analysis techniques. There are multiple linear regression for main test and logistic regression for additional test. The results of the main test show that employee intensity and intellectual capital have impact on sticky cost. But, the Covid-19, asset intensity, equity intensity, management incentives, and profitability have no impact on sticky cost. The main test result is supported by the additional test, in term of first, intellectual capital has impact on sticky cost. Second, the other determinants remain no impact on sticky cost. The implications of this research are management should be careful to make investment in intangible assets and use employee intensive. As those determinants can increase sticky cost.

ABSTRAK

Sticky cost merupakan fenomena yang dapat terjadi pada perusahaan dan merupakan respon tidak seimbang dari biaya terhadap perubahan output. Sticky cost seharusnya tidak boleh terjadi karena dapat menurunkan laba perusahaan. Oleh karena itu, perusahaan perlu mengetahui determinan-determinan yang berpengaruh terhadap sticky cost. Dengan demikian, perusahaan dapat mengendalikannya dengan baik sehingga sticky cost dapat dikurangi. Penelitian ini bertujuan membuktikan determinan mana berpengaruh pada sticky cost: pandemi Covid-19, intensitas aset, intensitas karyawan, intensitas ekuitas, insentif manajemen, profitabilitas, dan modal intelektual. Penelitian ini juga penelitian kuantitatif pada objek penelitian berupa perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia dengan periode pengamatan dari 2019-2020. Penelitian ini menggunakan data keuangan dari laporan tahunan dan ringkasan risalah Rapat Umum Pemegang Saham. Teknik pemilihan sampel menggunakan teknik purposive sampling method. Penelitian ini menggunakan dua teknik analisis data yaitu regresi linear majemuk untuk pengujian utama dan regresi logistik untuk pengujian tambahan. Hasil penelitian dengan pengujian utama menunjukkan intensitas karyawan dan modal intelektual berpengaruh terhadap sticky cost. Sedangkan, pandemi Covid-19, intensitas aset, intensitas ekuitas, insentif manajemen, dan profitabilitas tidak berpengaruh terhadap sticky cost. Hasil pengujian utama didukung oleh hasil uji tambahan, pertama, pengaruh modal intelektual terhadap sticky cost. Kedua, determinan-determinan lainnya tidak berpengaruh terhadap sticky cost. Hasil penelitian ini mempunyai implikasi yaitu manajemen seharusnya berhati-hati dalam memutuskan untuk melakukan investasi dalam aset tidak berwujud dan penggunaan karyawan intensif. Dua determinan tersebut akan meningkatkan sticky cost.

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1. INTRODUCTION

Sticky cost can exist in number of companies, especially in manufacturing companies and it tends to have higher than in non-manufacturers (Fanani & Tiono, 2017). Sticky cost is an asymmetric cost behavior which is defined as an unbalanced response of costs to changes in output where the cost response is stronger to an increase than a decrease in output (Eltivia et al., 2018). Besides that it is in the form of selling, administrative, and general costs (Azmi & Januryanti, 2021; Nuridah, 2019). The phenomenon of sticky cost has several possibilities such as the decrease in revenue and business sales is greater than the decrease in costs, or the increase in costs is greater than the increase in revenue and business sales (Afiffah et al., 2018; Evelyn, 2018).

Sticky cost should not occur because it can cause the company to experience a significant decrease in profits. For that reason, it is important for the companies to understand the determinants that influence sticky costs so that they can control it properly. This is expected to reduce sticky cost behavior in companies.

The determinants that affect sticky costs can be external or internal (Linggardjaja, 2020). One of the external determinants is the covid-19 pandemic on sticky cost. The covid-19 pandemic is sudden event affect on the operational activities in companies. The Government has limited the mobilizations so that the goods have not been delivered timely. It results in the decrease of sales. The companies must be reducing the sticky cost in the covid-19 pandemic periods. Jo et al. (2021) have found that IT manufactures reduce the sticky cost as the decrease of sales. The covid-19 pandemic is the contingent factors that must be considered by the companies.

The internal determinants on sticky cost are asset intensity (Afiffah et al., 2018; Azmi & Januryanti, 2021; Evelyn, 2018; Jazuli et al., 2020); employee intensity (Afiffah et al., 2018; Jazuli et al., 2020; Nuridah, 2019); and intellectual capital (Anriva et al., 2019; Azmi & Januryanti, 2021; Mohammadi & Taherkhani, 2017; Santoto & Rachmawati, 2021). Asset intensity, employee intensity, and intellectual capital are resources used in operational activities. The consumptions of those resources have logical consequences in the increase of cost. It implies that the asset intensity, employee intensity and intellectual capital encourage the sticky cost. The impact of asset intensity, employee intensity, and intellectual

capital on the sticky cost is inconsistent. Azmi & Januryanti (2021); Evelyn (2018); Jazuli et al. (2020) have found that asset intensity has positive impact on sticky cost. On the contrary, other research has found that asset intensity is negative on sticky cost (Afiffah et al., 2018). Jazuli et al. (2020) find that employee intensity has negative impact on sticky cost. Another one was Afiffah et al. (2018) who found there is no impact of employee intensity on sticky cost.

The equity intensity is the capital structure of the company to avoid agency problem. The agency problem will increase if the equity capital is more than the debt as the capital structure. In this case, management tends to increase the cost as response to the increase of sales. The response of the cost is higher than the increase of sales. Jazuli et al. (2020) have found that there is no impact of the equity intensity on sticky cost.

The management incentive is one of the internal mechanisms of corporate governance (Hitt et al., 2017). The management attempts to fulfill the shareholder interest. The incentive is the tool for shareholder to assure the management will provide their interest. Unfortunately, the management incentive is the determinant to increase sticky cost. Kama & Weiss (2013) have found that the management incentive decrease the sticky cost in the companies that avoid losses and decrease earnings.

There is a trade off dilemma between profitability and sticky cost. Using the agency theory, the management opportunism encourages profitability to show their own performance of managing the company. So that, they tend to increase cost efficiency to make profitability. The conclusion is profitability will reduce the sticky cost. Jazuli et al. (2020) fails to examine the relationship of profitability on sticky cost. While, Alenezi (2020) shows that profitability decreases sticky cost.

Previous studies have shown inconsistency results and still limited on the number of the determinants on sticky cost. This study develops the model based on those previous studies. Therefore, the researchers try to examine by comparing our result with previous studies. The main purpose of this study is to identify the determinants that have the most impact on sticky cost. It is important for management precautions to manage the company. The measurement some of the determinants refer to previous study. This study measure intellectual capital by two

proxies: value added intellectual coefficient (VAIC) and intellectual capital index (ICI). VAIC is the effectiveness measure of how well intellectual capital has been used in operational activities. ICI is the measure of how investors' expectations of the effectiveness of intangible assets. It indicates that VAIC (ICI) is the internal (external) effectiveness measurement. There is limited study on the covid-19 pandemic as one of sticky cost determinants. It is relevant to test the contextual determinant on the sticky cost.

This study uses two statistical tools to test the determinants of sticky cost: multiple regression analysis and logistic regression analysis. The multiple regression analysis is the main test while logistic regression as additional test. This study uses manufacturing industry listed on Indonesian Stock Exchange (IDX) as research object. The observation periods are 2019 - 2020.

The results of main test reveal, first, the employee intensity and intellectual capital proxy by VAIC have positive impact on sticky cost. The use of employee has logical consequence to increase the cost of salaries and wages. It describes by using the resources concept. Thus, the employee intensity responds to increase sticky cost. The use of intellectual capital in the companies provides competitive advantage. Using the resources usage concept, the consumptions of intellectual capital have caused the cost of consumptions. It increases the sticky cost. Second, intellectual capital proxy by ICI has negative impact on sticky cost. ICI is the external measurement of intellectual capital reveals that management tends to reduce cost as the pressure from market (investor). Third, the covid-19 pandemic; asset intensity; equity intensity; management incentives; and profitability have no impact on sticky cost.

The results of additional test have confirmed the main test in term of intellectual capital; asset intensity; equity intensity; management incentives; and profitability. Those variables are not the sticky cost determinants. The differences between additional test and main test are, first, the sign of VAIC and ICI. VAIC has negatif impact on sticky cost. It means that the effectiveness of intellectual capital reduce the probability of sticky cost. Intellectual capital results in the consumptions of tangible asset reductions and promotes cost efficiencies. ICI has positive impact on sticky cost. Management uses intangible assets to impress investors. It results in the increasing of cost and leverage sticky

cost. Second, the employee intensity has no impact on sticky cost. The employee intensity is not the determinant of sticky cost. This study concludes that intellectual capital and employee intensity are the determinants of sticky cost.

This study has contributions both academically and practically. The academic contributions are (1) the use of covid-19 pandemic as contextual factor, though there is no impact on sticky cost. Future research can consider the covid-19 pandemic as determinant; (2) intellectual capital uses two measurements: internal and external. The results are inconsistent. It is interesting to re-examine the proxies. The practical contribution is that the management uses the employee intensity and intellectual capital precautiously. Those determinants can increase the sticky cost behavior.

2. THEORITICAL FRAMEWORK AND HYPOTHESIS

Contingency Theory

Contingency theory assumes that there is no single system that is general in nature and can be used in all types of companies in all conditions due to contextual factors. Contextual factors can be external factors such as environment and technology, or internal factors such as size, structure, culture, and business strategy of a company. This contingency theory shows that company management needs to be careful of contextual factors (not always occur and cannot be predicted when it starts and ends) especially environmental factors. As, it is hardly to control (Rosini, 2021). One example of this environmental factor is the covid-19 pandemic. It has affected companies to have a significant decrease in revenue and business sales. This is due to large-scale social restrictions and the imposition of restrictions on community activities, but not followed by a significant decrease. This is also s due to additional unexpected costs for adjusting to the covid-19 pandemic, causing the company's costs to continue to stick and not decrease which gives rise to sticky cost behavior.

Agency Theory

Agency theory assumes that there is a separation of ownership and control between shareholders (principals) and company management (agents) which causes both of them to have different or even opposite goals, where company management tends to be

selfish, prioritizing personal interests rather than maximizing shareholder wealth (Solomon, 2020). This the company's management attitude causes them to pursue incentives as much as possible through the imposition of costs that should occur when business revenues and sales increase. Then, it finally delays the cost reductions when business revenues and sales decline. It can also cause the company's bound costs to remain attached and do not decrease which gives rise to sticky cost behavior. The the company's management being selfish also shows that they want their performance to look good in the hope of obtaining greater incentives. One of the company's management performance measures is said to be good with regard to achieving targets (David & David, 2016). Therefore, when the company have a profit target arising from the company's profitability, the company's management is motivated to achieve the profit target, for example by reducing company costs, especially when there is a decline in revenue and business sales. Ultimately, this condition causes a reduction in company costs, which tend to stick and sticky behavior cost.

The Resource Usage and Adjustment Cost Concept

Resources based on their nature can be divided into flexible and bound resources. The problem of using these resources is related to bound resources because purchases are made before they are needed so that it raises fixed costs in exchange for the activity capacity available for the long term (Hansen & Mowen, 2016). This theory assumes that the problems caused by these bound resources occur. It can occur also when the company's management tends to maintain and delay the adjustment of the restricted resources even though it experiences a decrease in revenue and business sales, with the consideration of company management which tends to be optimistic that the decline in operating revenues and sales will not permanent (Hansen & Mowen, 2016) as well as considerations regarding the costs of adjusting the bound resources which are quite large (Eltivia et al., 2018). Therefore, the fixed costs of maintaining the bound resources continue to be attached and do not decrease. Company assets, especially fixed assets, company employees, company equity or capital, and intellectual capital are forms of bound resources owned by companies because they were owned before being used

so that the tendency to maintain them causes costs to manage these bound resources to be attached and not reduced which gives rise to sticky cost behavior. The costs incurred because of maintaining these bound resources. This needs a careful treatment as fixed costs because they tend to be inherent and difficult to control. It greatly affects the measurement of company profitability related to the company's success or failure in creating profits, so that the tendency to reduce costs through resource reduction Bonds that are not used, especially when revenue declines and business sales can help company management to reduce sticky cost behavior and achieve profit targets.

The Covid-19 Pandemic on Sticky Costs

The covid-19 pandemic is an outbreak of disease caused by the SARS-CoV-2 virus that has spread globally (Astuti, 2020) and began to enter Indonesia on March 2, 2020 (Dini, 2020). Contingency theory states that company management needs to be careful of contextual factors, especially environmental factors from external to the company. The covid-19 pandemic is a contextual factor related to the environment that affects the company's internal conditions because this pandemic does not always occur and it is impossible to predict when it will start and end. The company cannot contro; the covid-19 pandemic. It is due to an external factor so companies need to adapt to the existence of the pandemic. It requires adaptation because the covid-19 pandemic can have a negative impact on the company's internal conditions such as a significant decrease in revenue and business sales due to large-scale social restrictions and the imposition of restrictions on community activities, even though the company's costs actually increase because unexpected costs arise to adjust to the existence of the covid-19 pandemic. For example the cost of rapid tests or swab tests for employees (including sales, administration, and general costs) so that the adjustment to the company's cost reduction is not significant. This shows that the existence of the covid-19 pandemic will present sticky cost behavior, which tends to increase because the significant decline in revenue and business sales in 2020 during the covid-19 pandemic was not followed by a significant decrease in costs.

H1: The covid-19 pandemic has a positive impact on sticky cost

Asset Intensity on Sticky Cost

Asset intensity is the amount of asset resources utilized by the company to generate revenue and business sales (Jazuli et al., 2020). Some of the company's assets, especially fixed assets, are purchased before being used. Thus, the assets become a form of bound resources owned by the company. The concept of resource use and adjustment costs states that the company's management tends to maintain and delay the adjustment of bound resources even though it experiences a decrease in revenue and business sales. The consideration of company management which tends to be optimistic that the decline in business revenues and sales is not permanent and consideration regarding costs adjustment of the amount of bound resources is quite large. Such consideration causes the company's management to tend to maintain the bound resources in the form of the company's assets even though the income and sales of the business decrease. Therefore, the intensity of the company's assets becomes greater and the fixed costs are tied to maintaining the company's assets (including sales, administration, and general) is also getting bigger and continues to stick and does not decrease which ultimately increases sticky cost behavior. The statement above is in line with the research results of Azmi & Januryanti (2021); Evelyn (2018); Jazuli et al. (2020).

H2: Asset intensity has a positive impact on sticky cost

Employee Intensity on Sticky Cost

Employee intensity is the amount of human resources or employees used by the company to generate income and business sales (Jazuli et al., 2020). Employees are recruited before being used and can provide unused capacity, employees become a form of bound resource owned by the company. The concept of resource and adjustment costs describes that the company's management tends to maintain and delay the adjustment of bound resources even though it experiences a decrease in revenue and business sales, with the consideration of company management that tends to be optimistic that the decline in business revenues and sales is not permanent as well as consideration of adjustment costs relatively large amount of bound resources. These considerations cause the company's management to tend to maintain bound resources in the form of the company's employees even though revenue and business sales decline. Thus, the

intensity of the company's employees becomes greater and the fixed costs tied to paying the company's employee benefits (including sales, administration, and general costs) are also increasing large and persists and does not decrease which ultimately increases the sticky cost behavior.

H3: Employee intensity has a positive impact on sticky cost

Equity Intensity on Sticky Cost

The equity intensity system is the amount of capital or equity resources invested in the company to generate income and business sales (Jazuli et al., 2020). Equity or capital especially from the investment of shareholders is owned by the company. Before they use it they can use it but it is not fully utilized (there is idle capital) then equity is a form of bound resource owned by the company. The concept of resource use and adjustment costs is that the company's management tends to maintain and delay the adjustment of bound resources even though it experiences a decrease in revenue and business sales, with the consideration of company management which tends to be optimistic that the decline in business revenues and sales. They are not permanent, regarding costs adjustment of the amount of bound resources is quite large. This causes the company's management to maintain the resources in the form of equity or company capital even though business revenues and sales decline. Thus, the intensity of the company's equity becomes greater and dividends and fixed costs are bound to manage the company's equity (including sales costs, administration, and general) is also getting bigger and continues to stick and does not decrease. Ultimately, it increases sticky cost behavior. The above statement states that equity intensity can increase sticky costs.

H4: Equity intensity has a positive impact on sticky cost

Management Incentives on Sticky Cost

Management incentives are compensation or bonuses or additional rewards (other than salaries, wages, or commissions) given to company management whose form can be monetary or non-monetary to appreciate good work performance (Hughes et al., 2017), where incentives are included in selling, administrative, and general expenses. Agency theory has the assumption that there is a separation of ownership and control between shareholders (principals) and company

management (agents), This finally causes both of them to have different or even opposite goals, where company management tends to be selfish, prioritizing personal interests over personal interests, and maximize shareholder wealth. Based on this theory, management incentives are agency costs due to agency problems in the company which are intended to align the goals of company management and shareholders (Solomon, 2020). Management incentives, although aimed at aligning goals, also provide an opportunity for company management to commit fraud to maximize wealth by pursuing as many incentives as possible. This is done through imposing unnecessary costs when business revenues and sales increase and delaying cost reductions. Management incentives can be sourced from the company's free cash flow because free cash flow opens up opportunities for company management to charge unnecessary costs (Aprillya, 2017).

Free cash flow or free cash flow (FCF) measures the amount of a company's free cash flow that can be used to buy additional investments, pay off company debt, or various other company needs (Kieso et al., 2018). This shows that the greater the free cash flow of the company, the greater the management incentive through the imposition of costs that are not supposed to cause the emergence of company-bound costs that are even greater and continue to be attached and do not decrease which ultimately increases sticky cost behavior.

H5: Management incentives have a positive impact on sticky cost

Profitability on Sticky Cost

Profitability is a measurement of the level of success or failure of the company in creating profits within a predetermined period of time (generally one year) so that it can describe how effective the company's management is in regulating the company's operational activities (Kieso et al., 2018). One of the profitability ratios is return on equity (ROE) which measures the amount of profit the company generates from equity or shareholder investment (Kieso et al., 2018). Agency theory which shows the selfish attitude of company management that prioritizes personal interests, as well as the concept of resource use and adjustment costs which show the tendency of company management to adjust bound resources despite a decrease in revenue and business sales,

become the basis for influencing the company's management attitude towards profitability. The company management selfish attitude indicates that they want their performance to look good, hoping ngreater incentives. One measure of company management performance is said to be good with regard to achieving targets (David & David, 2016). When the company has a profit target arising from the company's profitability, they are aerger to achieve the profit target. The achievement of the profit target can be done by reducing company costs, especially when there is a decrease in income and business sales, one of which is by reducing bound resources, which cause fixed costs (including sales, administration, and general costs). Ultimately, it leads to a reduction in revenue inherent company costs. This causes the company's profitability or the amount of profit to be greater represented by a greater return on equity (ROE), thereby reducing sticky costs.

H6: Profitability has a negative impact on sticky cost

Intellectual Capital on Sticky Cost

Intellectual capital is knowledge, intellectual ability, and tendencies that can be converted into value and can be classified into three categories, namely human capital, structural or organizational capital, and relational capital (Szlagowski, 2019). Intellectual capital is a resource in the form of intangible assets owned by the company (Edvinsson et al., 2019). Intellectual capital is owned before it is used and, therefore, it becomes a form of bound resources owned by the company.

The concept of resource use and adjustment costs states that the company's management tends to maintain and delay the adjustment of tied resources even though it experiences a decrease in revenue and sales of the business. Companies that realize the importance of the development and progress of the company will also consider intellectual capital as a high-value resource that must be maintained because it can generate revenue and business sales in the future (Yang, 2018). The company's management tends to maintain the bound resources in the form of intellectual capital even though revenues and business sales decline. This also causes the company's intellectual capital to become larger and the fixed costs are tied to maintaining the intellectual capital (including sales, administration and general) is also getting bigger and continues to stick and

does not decrease which ultimately increases the sticky cost behavior. The statement above is in line with the research results of (Azmi & Januryanti, 2021).

H7: Intellectual capital has a positive impact on sticky cost

3. RESEARCH METHOD

Research design

This research is a quantitative study that uses quantitative data in the form of company financial data and in the form of secondary data obtained from the annual report and summary of the minutes of the GMS. The data were taken from the IDX's official website or the websites of each company. Data collection in this study involves the documentation method aimed to collect data from documents that have been prepared by other parties. This research was carried out by involving the main test and additional testing to confirm the results of the main test.

Research Variable

This test involves the dependent variable in the form of sticky cost (STC), while the independent variables used are the Covid-19 pandemic (PC), asset intensity (IA), employee intensity (IK), equity intensity (IE), management incentives (FCF), profitability (ROE), and intellectual capital (VAIC and ICI).

Measurement of variables in the main test:

a. *Sticky cost* (STC) measured using 1994 or a maximum of 2012 to 2020 based on the formula from Nuridah's research (2019) and the research of Santoso and Rachmawati (2021), where the sticky cost value is β_1 with condition $\beta_1 > 0$ and $\beta_2 < 0$, or $\beta_1 > \beta_1 + \beta_2$.

$$\log = [\text{SG\&A}_{i,t} - \text{SG\&A}_{i,t-1} / \text{SG\&A}_{i,t-1}] \alpha + \beta_1 * \log [\text{Sales}_{i,t} - + \text{Sales}_{i,t-1} / \text{Sales}_{i,t-1}] + \beta_2 * \text{DECDUM}_{i,t} * \log [\text{Sales}_{i,t} - + \text{Sales}_{i,t-1} / \text{Sales}_{i,t-1}] + \varepsilon_{i,t} \dots \dots \dots (1)$$

Keterangan:

SG&A_{i,t} = Selling, administrative and general expenses of company i in period t

SG&A_{i,t-1} = Selling, administrative and general expenses of company i in period t-1

α = Constanta

$\beta_1; \beta_2$ = PA&U cost elasticity coefficient

Sales_{i,t} = Revenue and sales of firm i in period t

Sales_{i,t-1} = Revenue and sales of firm i in period t-1

DECDUM_{i,t} = A dummy variable with a value of 0 if income and business sales increase between period t and period t-1, or a value of 1 if it decreases between period t and period t-1
 $\varepsilon_{i,t}$ = Residual or error

b. Covid-19 Pandemic (PC) measured by a dummy variable that gives a score of "1" in the year when the Covid-19 pandemic occurred in Indonesia, namely in 2020, while a score of "0" was given in the year before the Covid-19 pandemic in Indonesia, namely in 2019.

c. Asset intensity (AI) is measured based on a formula from research by Jazuli et al. (2020) and Azmi and Januryanti (2021).
 $IA = \text{Total Assets} / \text{Total Firm Revenue and Sales} \dots \dots \dots (2)$

d. Employee intensity (EI) is measured based on the formula from Nuridah's research (2019).
 $EI = \text{Total Cost of Employee Salaries and Benefits} / \text{Total Firm Revenue and Sal es} \dots \dots \dots (3)$

e. Equity intensity (EQI) is measured based on the formula from from research by Jazuli et al. (2020).
 $EQI = \text{Total Equity} / \text{Total Firm Revenue and Sales} \dots \dots \dots (4)$

f. Management incentives (FCF) are measured using free cash flow (FCF) based on the formula from Nuridah's research (2019).
 $FCF = \text{Cash Flow from Operating Activities Devidend} / \text{Total Assets} \dots \dots \dots (5)$

g. Profitability (ROE) is measured using return on equity (ROE) based on the formula from research by Jazuli et al. (2020).
 $ROE = \text{Net Profit After Tax} / \text{Total Equity} (6)$

h. Intellectual capital (MI) is measured by the value added intellectual coefficient (VAIC) and intellectual capital index (ICI) approaches.

a. The VAIC approach is based on the formula from the research of Santoso and Rachmawati (2021)
 $VAIC = VACA + VAHU + STVA \dots \dots (7)$

Description:

VAIC = Value added intellectual coefficient

VACA = Value added capital employed

VAHU = Value added human capital
 STVA = Structural capital value added

$$VA = \text{Output} - \text{Input} \dots\dots\dots(8)$$

Description:

VA = Value added

Output = Firm revenue and sales

Input = Expenses (except salaries, wages, training expenses, and education expenses)

$$VACA = VA / CA \dots\dots\dots(9)$$

Description:

CE= Capital employed (net assets - intangible assets)

$$VAHU = VA / HC \dots\dots\dots(10)$$

Description:

HC= Human capital (salaries, wages, training expenses, and education expenses)

$$STVA = SC / VA \dots\dots\dots (11)$$

Description:

SC= Structural capital (VA - HC)

- b. The ICI approach is based on the formula from the research of Malinda and Rachmawati (2020)

$$ICI = \frac{\text{Total Intangible Assets} + \text{Goodwill} + \text{NP} - \text{NB}}{\text{NP}} \dots\dots(12)$$

$$\text{Book value (NB)} = \text{Total equity} + \text{Debt} - \text{Cash and marketable securities} \dots\dots(13)$$

$$\text{Company value (NP)} = (\text{Market price of shares} * \text{Number of shares issued and outstanding}) + \text{Debt} - \text{Cash and marketable securities} \dots\dots(14)$$

Variable measurement on additional test:
 This additional test has a difference in the sticky cost (STC) measurement as measured by the dummy variable which gives a score of "1" when a sticky cost occurs, while a score of "0" is given when there is no sticky cost. Measurement of other variables using the same measurement as the main test.

Research Population and Sample

The population of this study is all manufacturing companies listed on the IDX during 2019-2020. The sample was obtained through a purposive sampling method with criteria:

- a. Registered on the IDX since 1994 or a maximum of 2012 to 2020.
- b. Not moving to non-manufacturing and not being delisted during 2019-2020.

- c. Publish annual reports whose financial statements have been audited completely and consistently on the IDX or the website of each company since 1994 or a maximum of 2012 to 2020.
- d. Publish the amount of dividends for the 2020 financial year in the summary of the 2021 GMS on the IDX or the website of each company.
- e. No loss during 2019-2020.
- f. Has no negative total equity value during 2019-2020.
- g. Presenting financial statement data in the annual report in Rupiah.
- h. Has completeness of data used as research variables.

The total research sample was 110. The main test processed 40 sample data because as many as 65 did not experience sticky costs and as many as 5 were outlier data. Additional testing processes 110 sample data.

Research Data Analysis Techniques

This study carried out the main test with multiple linear regression and additional testing with logistic regression using enter, forward, and backward methods. The main testing stages are descriptive statistics, classical assumption tests, model feasibility tests, and hypothesis testing. Additional testing stages are descriptive statistics, model feasibility tests, and hypothesis testing.

4. DATA ANALYSIS AND DISCUSSION

Main Test Results

Descriptive statistics

The sample data are the companies that experienced sticky costs in the main test. It showed that the sample data that experienced sticky costs when the Covid-19 pandemic did not occur were 18 sample data (45%), while the sample data that experienced sticky costs during the Covid-19 pandemic were as many as 18 22 sample data (55%). Further data description can be seen in Table 1 and Table 2.

Classic assumption test

This study conducted three classical assumption tests: normality, heteroscedasticity, and multicollinearity tests. The tests show that the model fulfill the requirements of normality, homoscedasticity, and no multicollinearity.

Model Feasibility Test

This research model has been feasible to be used in predicting the effect of the independent variable on the dependent. The R² or ability

of the independent variables in this research model can explain the dependent variable by 25.4% while the rest is explained by other variables not tested in this study. The F test shows significant at p-value 5%

Hypothesis Testing

Main Testing Discussion

Covid-19 Pandemic on Sticky Cost

The main test concluded that the Covid-19 pandemic had no effect on sticky costs, so the first hypothesis was rejected. The regression coefficient for the Covid-19 pandemic is negative which indicates a negative and not positive effect because in 2019 before the Covid-19 pandemic there was a decline in revenue and business sales that were greater

than the decrease in company costs. It shows a sticky cost behavior so that when there was a decline in revenue and the sale of business again during the Covid-19 pandemic in 2020, the company has made better adjustments to reduce company costs, which can ultimately reduce sticky cost behavior. This negative effect is considered to have no effect because the results of the frequency test show that the number of companies that experienced sticky costs before and during the Covid-19 pandemic was not much different, and in Table 4 is the number of companies that experienced a decrease in sticky cost behavior during the Covid-19 pandemic does not differ from those that experience an in sticky cost behavior.

Table 1
Descriptive Statistics - Main Test

	Min	Maks	Mean	St.Dev
STC	0.085	2.456	0.978	0.596
AI	0.617	2.243	1.210	0.440
EI	0.015	0.205	0.068	0.046
EQI	0.251	1.867	0.681	0.325
FCF	-0.047	0.426	0.083	0.095
ROE	0.000	1.052	0.133	0.163
VAIC	3.839	64.474	21.651	14.886
ICI	-2.004	0.921	0.297	0.518

Source: Processed Data

Table 2
Frequency Test - Main Test

	Category	Frequency	Percentage
PC	No (0)	18	45%
	Yes (1)	22	55%

Source: Processed Data

Table 3
Statistical T - Main Test

Model	Unstandardized Coefficient		t	Sig.
	B	SE		
C	-0.737	0.534	-1.380	0.177
PC	-0.133	0.176	-0.756	0.456
AI	0.464	0.316	1.468	0,52
EI	9.012	3.104	2.904	0.007***
EQI	-0.131	0.423	-0.310	0.759
FCF	-0.330	1.234	-0.267	0.791
ROE	0.706	0.760	0.929	0.360
VAIC	0.036	0.009	3.834	0.001***
ICI	-0.480	0.188	-2.556	0.016**

*** Significant at p-value 0.01; **Significant at p-value 0.05

Source: Processed Data

Table 4
Sticky Costs in the Covid-19 Pandemic

Decrease	10 Companies
Increase	7 Companies

Source: Processed Data

There is no enough statistical support that there is differences of sticky cost before and during the covid-19 pandemic. It means there is no enough to explain the contingency theory empirically. This result does not support of Jo, Kwak, and Lee (2021). Jo, Kwak, and Lee have found that during the pandemic, IT companies tend to reduce their R&D expense as response to decrease of sales. It means, management reduce sticky cost during the covid-19 pandemic.

Asset Intensity against Sticky Cost

The main test concludes that asset intensity has no effect on sticky costs, s\therefore, the second hypothesis is rejected. The asset intensity regression coefficient is positive which indicates the greater the asset intensity, the greater the cost to maintain the asset, thereby increasing the sticky cost behavior. This positive effect is considered to have no effect because even though the results of descriptive statistics state the average value of the asset intensity variable from the sample companies, it means that the average company experiencing sticky costs in utilizing company assets is greater than the income and business sales received, but the sample companies in the study This average has a number of fixed assets of 41.52% of total assets so that the number of fixed assets is less than other assets as shown in Table 5.

Table 5
Company Asset Classification

Fixed assets	41.52%
Other Than Fixed Assets	58.48%

Source: Processed Data

Table 5 shows that the sample of this study has not much variance in using asset intensity. For that reason, there is not enough statistic support to show the impact of asset intensity on sticky cost. Indeed there is no much support to explain the concept of resource use and adjustment costs empirically. Asset intensity is used to achieve effectiveness. This indicator is the focus of management performance achievement. Therefore, management decisions related to the use of asset intensity

are viewed from a performance perspective, so that they do not result in changes in sticky cost behavior. This result supports Soenjoto & Alfiandri (2019).

Employee Intensity on Sticky Cost

The main test concludes that employee intensity has a positive effect on sticky costs so that the third hypothesis is accepted. This positive effect is due to the fact that even though the results of descriptive statistics state the average value of the employee intensity variable from the sample companies, it means that the average company experiencing sticky costs of utilizing company employees is smaller than the income and business sales received, but the existence of applicable labor laws and regulations such as Law No. 13 of 2003, company policies and responsibilities related to employment, as well as consideration of large employee adjustment costs become an obstacle to the decrease in the number and costs of employees, causing the intensity of employees at the company to increase and they have to pay employee benefits (salary costs and employee benefits. which eventually increases the sticky cost behavior.

The result of this study can explain the concept of resource use and adjustment costs empirically. Employees or human capital is a core competency and organizational capability. The company strives to maintain its human capital so that it can provide a competitive advantage. Therefore, the company provides a remuneration package to retain its employees, resulting in sticky cost behavior.

Intensity of Equity on Sticky Cost

The main test concludes that equity intensity has no effect on sticky cost so that the fourth hypothesis is rejected. The regression coefficient of equity intensity is negative which indicates a negative and not positive effect because even though the company's equity or capital, especially from the investment of shareholders or owners, can result in dividends or fixed costs such as notary fees for the minutes of the General Meeting of Shareholders (GMS), but Law Number 40 of 2007 concerning Limited Liability Companies does not require the distribution of dividends and does not require the minutes of the GMS in the form of a notarial deed. Thus, this loosening of regulations causes dividends and fixed costs that arise to be reduced, which in turn can reduce sticky cost behavior. This negative

effect is considered to have no effect because the results of descriptive statistics state that the average value of the equity intensity variable from the sample companies means that the average company experiencing sticky costs of utilizing the company's equity or capital is smaller than the income and business sales received.

The results has no enough statistically support to explain the concept of resource use and adjustment costs empirically. Management tends to treat equity intensity related to investment decision making by looking at risk and return so that it makes investment decision making more precise and does not cause changes in sticky cost behavior. The result of this study supports Jazuli et al. (2020).

Management Incentives on Sticky Cost

The main test concludes that management incentives have no effect on sticky costs so that the fifth hypothesis is rejected. The regression coefficient of management incentives is negative which indicates a negative and not positive effect because many sample companies have negative free cash flows, where this is because cash flows from operating activities are negative which indicates that companies use these free cash flows to invest in projects. Products that provide long-term benefits (such as payouts to suppliers) and free cash flow are also used to pay dividends to shareholders, which ultimately leads to a decrease in sticky cost behavior because company management does not incur unnecessary costs to increase their incentives. This negative effect is considered to have no effect because the results of descriptive statistics state that the average value of the management incentive variable as measured by free cash flow (FCF) from the sample companies means that on average, companies that experience sticky costs have relatively few free cash flows. so that the impact of reducing sticky cost behavior is also not much or is considered to have no effect.

The result of this study has no enough statistically support to explain the agency theory empirically. It indicates the management of companies listed on the IDX are still trying to prioritize the interests of shareholders instead of pursuing their own incentives. It results in no impact on sticky cost behavior. This result has supported Jazuli, Maksum, and Rini (2020).

Profitability on Sticky Cost

The main test concludes that profitability

has no effect on sticky costs so that the sixth hypothesis is rejected. The profitability regression coefficient is positive which indicates a positive and not negative effect because even though profitability raises the profit target to be achieved by the company's management. Thus, the performance looks good and can get greater incentives, the company's management does not achieve it by immediately making rash decisions to reduce company costs such as reduce the company's bound resources but be more careful in considering all decisions taken so as not to cause the company to actually lose money and make the company's management performance look bad, this causes the company's bound resources to tend to be maintained. Therefore, the tied fixed costs incurred continue to be attached and not reduced which ultimately increases the sticky cost behavior. This positive effect is considered to have no effect because the results of descriptive statistics state that the average value of the profitability variable as measured by return on equity (ROE) of the sample companies means that the average company experiencing sticky costs has a return rate of 13.3% in the form of profit, this shows that the profit target of the sample company is not large so that the company's management also does not need to rush in making decisions to achieve the profit target.

The results of this study indicate the existence of management efficiency behavior. Management seeks to increase shareholder wealth. Therefore, management tends to make decisions when there is a decrease in revenue. Conversely, if there is an increase in income, management will not take any decisions so that it will not affect sticky cost behavior. This result has supported Evelyn (2018) and Jazuli et al. (2020).

Intellectual Capital on Sticky Cost

The main test concludes that intellectual capital as measured by the value added intellectual coefficient (VAIC) has a positive effect on sticky costs. While intellectual capital as measured by the intellectual capital index (ICI) has a negative effect on sticky costs. It means that the seventh hypothesis is accepted if the measurement of intellectual capital in the form of VAIC is used. This positive effect is due to the results of descriptive statistics stating that the average value of the intellectual capital variable with VAIC from the sample companies means that on average, companies that experience sticky

costs have a greater added value effectiveness than the intellectual capital of companies that are utilized. This shows that the added value generated by intellectual capital is quite large and encourages company management to tend to maintain the company's intellectual capital which ultimately causes the cost of owning and maintaining the company's intellectual capital to continue to stick and not decrease thereby increasing sticky cost behavior in the company.

The result of this study supports the concept of resource use and adjustment costs empirically. Intellectual capital can create added value in order to generate revenue and business sales so that companies that view intellectual capital as an investment that contributes to the long term are reluctant to reduce intellectual capital investment in companies. This result has supported Azmi & Januryanti (2021).

Additional Test

Additional Test - Descriptive Statistics

The sample data of companies in the main test showed that the sample data that did not experience sticky costs were 65 sample data (59.1%), while those experiencing sticky cost were 45 sample data (40.9%). Sample data on additional testing also shows sample data that did not experience the Covid-19 pandemic in 2019 and sample data that experienced the Covid-19 pandemic in 2020 each as many as 55 sample data (50%). Further description of the data can be seen in Table 6 and Table 7 below.

Table 6
Descriptive Statistics - Additional Test

	Min	Maks	Mean	St.Dev
AI	0.205	3.677	1.178	0.608
EI	0.005	0.205	0.056	0.044
EQI	0.047	3.433	0.737	0.562
FCF	-0.299	0.426	0.079	0.101
ROE	0.000	1.451	0.135	0.212
VAIC	3.839	226.025	32.443	32.374
ICI	-6.112	0.942	-0.081	1.103

Source: Processed Data

Table 7
Frequency Test - Additional Test

	Category	Frequency	Percentage
STC	No (0)	65	59.1%
	Yes (1)	45	40.9%
PC	No (0)	55	50%
	Yes (1)	55	50%

Source: Processed Data

Additional Test - Results

Table 8 above shows that the intellectual capital has impact on sticky cost. But, there is the difference sign between VAIC and ICI as intellectual capital proxies. VAIC (ICI) has negative (positive) impact on sticky cost. It indicates that the different measurement can be caused different result.

Table 8
Statistical Test t - Additional Test

Model	B	SE	Sig.	Exp (B)
Enter Method				
C	-0.574	1.077	0.594	0.563
PC	0.130	0.433	0.764	1.138
AI	1.275	0.790	0.107	3.580
EI	4.258	7.154	0.552	70.645
EQI	-1.555	0.951	0.102	0.211
FCF	3.047	2.554	0.233	21.059
ROE	-1.490	1.351	0.270	0.225
VAIC	-0.018	0.013	0.170	0.982
ICI	0.612	0.346	0.077*	1.845
Forward and Backward Method				
C	0.195	0.336	0.562	1.215
VAIC	-0.019	0.010	0.048**	0.981
ICI	0.580	0.269	0.031**	1.786

**Significant at p-value 0.05; *Significant at p-value 0.1

Source: Processed Data

The negative impact of VAIC on sticky cost indicates that management uses intellectual capital to reduce the use of tangible assets. It results in the increasing of cost efficiency,

so that sticky cost can be reduced. While the positive impact of ICI on sticky cost indicates that the use of intangible assets results in the increase of cost, so it increases sticky cost.

There is difference sign of this additional test and main test. The main test shows that VAIC (ICI) has negative (positive) impact on sticky cost. It indicates that the statistical tools can cause different results. The intellectual capital proxy by VAIC (ICI) causes the increasing sticky cost in multiple regression analysis (logistic regressions).

Another result by using two different statistical tools is the impact of employee intensity. Table 8 above shows that there is no impact of employee intensity on sticky cost. But, by using the multiple regression analysis, employee intensity has positive impact on sticky cost. It concludes that the employee intensity is not the strong determinant on sticky cost.

Other determinants: the covid-19 pandemic, asset intensity, equity intensity, management incentive, and profitability have no impact on sticky cost. The additional test confirms the main test. These variables are not the determinants of sticky cost.

5. CONCLUSION, IMPLICATION, SUGGESTION AND LIMITATION

The main and additional tests conclude that intellectual capital is the determinant of the sticky cost. Intellectual capital is an intangible asset that the companies use to achieve competitive advantage. The consumptions of the intangible asset has a logical consequence of the increasing cost. Therefore, the companies use intellectual capital can increase sales. However, the increase of sales is lesser than the increase of cost. In the other words, intellectual capital can cause sticky cost.

The main test shows that the employee intensity has positive impact on sticky cost. Although the result of additional test differs from main test, it indicates that the employee intensity is the sticky cost determinant.

Both of intellectual capital and employee intensity explain the usage of resources and cost adjustment concept. The results of this study confirm the consumptions of resources promote sticky cost. Yet, there is not enough statistical evidence to explain the contingency theory and agency theory. As the covid-19 pandemic, equity intensity, management incentives, and profitability do not have impact on sticky cost.

This study also shows that (1) different measurement of intellectual capital, and (2) different statistical tools will make different results regarding intellectual capital particularly. It indicates that the role of intellectual capital on sticky cost is shaky whether increase or decrease.

It implies that management has to manage intangible assets both intellectual capital and employee cautiously, as they can add sticky cost behavior.

This study has several limitations. First, the results of this study can only explain the manufacturing industry. It cannot be generalized for their industries. Further research can examine the same model in another industry such as telecommunication, banking, and other sector. Second, this study ignores the target objective of the companies. For example, the companies in the sample might avoid loss or avoid earning decrease as target objective. Further research can make a group (group of avoid loss and not avoid losses; group of avoid earning decrease and not avoid earnings decrease) to test the determinants of sticky cost. Finally, this study ignores the form of management incentives. There are many of management incentives, such as stock bonus, cash bonus, options, etc. Further research should consider the form of management incentives to test on sticky cost.

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