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Research Article

The Enterprise Value and The Financial Leverage of Manufacturing Industries in the Municipality of Bulan Sorsogon

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ABSTRACT

This research was conducted to determine and assess the financial leverage and the enterprise value of manufacturing industries in the Municipality of Bulan Sorsogon, Philippines and to establish the relationship of these two variables. This also determines the factors that influence the financial leverage decisions of the business owners. This study used mixed design. A total of 92 registered manufacturing business owners operating in the said Municipality were the primary respondents of the study. Vertical analyses and linear regression analyses were utilized.

This study concludes that the manufacturing business enterprises in the Municipality of Bulan Sorsogon have significant amount of debt relative to its equity as manifested by its financial leverage. The respondents were likewise found to have a low enterprise value, with exception to company's book value, which suggests a lower market perception of the company's worth, potentially reflecting weaker financial performance or growth prospects. Lack of personal capital, financial risk tolerance and cost of debt, cash flow stability, growth opportunities and regulatory and legal considerations were the identified factors that influence the financial leverage of the manufacturing business owners. From the results, the researcher highly recommends that manufacturing business owners may consider optimizing their capital structure to ensure an appropriate balance between debt and equity.

Keywords: *Enterprise Value, Financial Leverage, Manufacturing Business, Asset to Equity ratio, Debt to Equity Ratio, Interest Coverage Ratio, Return on Assets, Return on Equity, Operating Free Cash Flows and Book Value.*

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Introduction

Leverage is a financial strategy associated with the way of financing and spending. In the financial field, it is easier to achieve higher profits or boost profits. Specifically, financial leverage is an investment mechanism based on indebtedness, that is, it is the method used by many companies when investing in a business: they contribute part of their own capital and the other part, through loans acquired from third parties. These types of strategies can be beneficial if everything goes as expected, however the risk involved can be much higher. The basic element within what financial leverage means is debt, since it allows the investment of more money than you actually have, thanks to what you obtain from the loans, in exchange for interest. One of the purposes of this method is to be able to increase the profits of the company, using borrowed funds (Curtis,2022). Maverick (2022) stated that financial leverage is a metric that shows how much a company uses debt to finance its operations. It was further stated that a company with a high level of leverage needs profits and revenue that are high enough to compensate for the additional debt it shows on its balance sheet. It was also explained that investors look at a company's leverage because it is an indicator of the solvency of the company. When a company's revenues and profits are on the rise, leverage works well for a company and investors. However, when revenues or profits are pressured or falling, the debt and interest expense must still be paid and can become problematic if there is not enough revenue to meet debt and operational obligations.

These ideas were supported by the statements of Hayes (2022) who mentioned that financial leverage results from using borrowed capital as a funding source when investing to expand the enterprise asset base and generate returns on risk capital. Leverage is an investment strategy of using borrowed money specifically, the use of various financial instruments or borrowed capital to increase the potential return of an investment. He added that leverage means the use of debt (borrowed capital) in order to undertake an investment or project. When one refers to a company, property, or investment as highly leveraged, it means that item has more debt than equity. In relation to this, literatures disclosed the fact that the concept of leverage is used by both investors and companies. Investors use leverage to significantly increase the returns that can be provided on an investment. They lever their investments by using various instruments, including options, futures, and margin accounts. Companies can use leverage to finance their assets. In other words, instead of issuing stock to raise capital, companies can use debt financing to invest in business operations in an attempt to increase shareholder value. The use of financial ratios such as the asset to equity ratio, debt to equity ratio and interest ratio coverage enable business owners assess its financial leverage.

The asset/equity ratio indicates the relationship of the total assets of the firm to the part owned by shareholders. This ratio is an indicator of the company's leverage (debt) used to finance the firm. The importance and value of the company's asset/equity ratio is dependent upon the industry, the company's assets and sales, current economic conditions, and other factors. There is no ideal asset/equity ratio value but it is valuable in comparing to similar businesses. A relatively high ratio (indicating lots of assets and very little equity) may indicate the company has taken on substantial debt merely to remain its business. But a high asset/equity ratio can also point to a company that is wisely trading on the equity. Meaning there is a high asset/equity ratio because the return on borrowed capital exceeds the cost of that capital (personalfinancelab.com/, 2023). This financial leverage (AER) may be computed using the formula as stated below:

AER = TOTAL ASSETS/TOTAL EQUITY

Similar to Asset-to-Equity Ratio, Debt to Equity Ratio also identifies the financial leverage of the firm which refers to a ratio that shows a company's ability to pay all its debts, this ratio shows the solvency of a company (Harjito & Martono, 2013, as cited by Kurniawan, 2021). Debt to Equity Ratio illustrates the ratio between total debt, both short-term debt (current liability) and long-term debt (long term debt) to the company's equity. The greater the Debt-to-Equity Ratio, it means that the business

capital structure uses more debt than capital. The higher the Debt-to-Equity Ratio, the greater the proportion of debt to capital, thus reflecting a relatively high company risk, so that the risk borne by investors is even higher (Nurcahayani & Daljono, 2014, as cited by Kurniawan, 2021). The formula of Debt-to-Equity is:

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

Interest Coverage Ratio (ICR), on the other hand, evaluates how many times a firm's EBIT may cover its interest payments. A high ICR suggests better profitability, providing a higher guarantee based on which the firm may deal with its debt (i.e., bank debt, bonds, and notes) from effective incomes in a similar period (Robinson et al., 2015). The following equation displays the general method to calculate this ratio:

$$\text{ICR (Interest Coverage Ratio)} = \frac{EBIT\ (Earning\ Before\ Interest\ and\ Taxes)}{Interest\ Expenses}$$

According to Noghondari, et.al. (2022), the total sum of interest spending, both the capitalized and the cost portions, must be used to give the right image of the interest-bearing coverage in estimating the interest-bearing ratios. Moreover, the revenue must be adapted in order to reduce the impact on the depreciation if a firm is devaluing interest, which is capitalized in an earlier period. In general, a better assessment of the solvency in a firm is possible by counting capitalized interest in the ICR estimation. Rating agencies comprise capitalized interest in coverage ratios in the assignment of credit evaluations. A financial deal is most often included on the bank loan that maintains the minimum ICR. The firm's credit agreement describes the coverage ratio. The concept is pertinent since the capitalized interest treatment in coverage ratio estimation would influence the valuation of how close the actual ratios of a firm are to the levels determined via its financial agreements, and thus, those covenants' breach likelihood. Relatedly, using the ICR of the company augments the economic justification of the interest expense. In other words, the company's ICR is an accounting ratio that somehow covers the increased interest rates and costs as well as the inflation during the loan period by taking into account the total company's interest expenses at the end of this period; hence it has an economic justification that considers the lost opportunity costs as well (Baños-Caballero et al., 2014).

On one hand, an enterprise value, also known as Firm Value (FV), is an economic concept that reflects the value of a business. It is the value that a business is worthy of at a particular date. Theoretically, it is an amount that one needs to pay to buy/take over a business entity. Like an asset, the value of a firm can be determined on the basis of either book value or market value. But generally, it refers to the market value of a company. EV is a more comprehensive substitute for market capitalization and can be calculated by following more than one approach (e-finance, 2022). Apparently, one of the reasons why the concept of EV has gained more importance than market capitalization is because the former is more inclusive. Besides equity, it includes the value of debt as well as cash reserves which have an important role to play in a corporation's valuation. A buyer would have to pay off an enterprise debt when taking over the firm and the same could be net off from the cash and cash equivalents available with the firm.

Business owners may evaluate the enterprise value of the firm through assessment of its return on assets, return on equity, operating free cash flows and book value. Based on the result of the study conducted by Desmon (2022), return on resources essentially affects firm worth, while return on value has a generally negative and minor effect and obligation to value proportion has a somewhat certain and critical effect. The profit from resources, return on value, and obligation to value proportions all essentially affect firm worth, as indicated by the review's discoveries. Return on resources advantageously affects firm worth, while return on value has a somewhat negative and minor effect, and obligation to value proportion hugely affects firm worth. The partially Return on Assets had no significant effect on Stock

Returns, the partial debt to Equity Ratio had no significant effect on Stock Returns, Total Asset Turnover partially had a positive and significant effect on Stock Returns (Kurniawan, 2021). Return on Asset is the company's ability to make a profit. The higher the profit the company gets, it can attract investors to invest in the company. Negative Return on Assets cannot increase stock returns, because the lower the Return on Assets, the lower the company can take advantage of the assets owned so that it cannot increase company profits (Gunadi & Kesuma, 2015, Putra & Kindangen, 2016, as cited by Kurniawan, 2021). Companies with large Return on Assets will attract investors to invest their funds into the company. This is because a large Return on Asset shows that stock performance is getting better, namely a large Return on Asset, stock prices also rise, so stock returns will also increase (Aryanti, Mawardi, & Andesta, 2016, as cited by Kurniawan, 2021). The term return on assets (ROA) refers to a financial ratio that indicates how profitable a company is in relation to its total assets. Corporate management, analysts, and investors can use ROA to determine how efficiently a company uses its assets to generate a profit. This ROA is computed by dividing the Net Income After Tax by the Total Asset (Hargrave, 2022) as presented below:

$$ROA = \frac{Net\ Income\ After\ Tax}{Total\ Asset}$$

Return on Equity also determines the value of the firm. ROE tells what percentage of profit the company makes for every monetary unit of equity invested in the company. ROE doesn't specify how much cash will be returned to the shareholders, since that depends on the company's decision about dividend payments and on how much the stock price appreciates. However, it's a good indication of whether the company is even capable of generating a return that is worth whatever risk the investment may entail (Berman, Knight and Case, 2013). ROE is usually calculated by dividing net profit by average equity as shown below:

ROE = NET INCOME/TOTAL EQUITY

The study conducted by Berzkalne (2014) revealed that agriculture, food production and retail industries show similar results regarding correlations between ROE, ROA and ROS. All correlations (except one in 2012) are highly positive and statistically significant. In addition, it was observed that ROE had significantly higher correlation coefficients with ROA, compared to ROS. Regarding industry differences on other company characteristics, it is possible to conclude that the ROEs of agriculture companies do not have statistically significant relationships with other ratios, capital structure and other characteristics. This might be due to the afore mentioned government subsidies, and as a result – distorted competition. The other two industries show more and higher correlations during the recession and this might indicate that in the pre-crisis period more attention is paid to country determinants and general condition of the economy. Food production companies had a negative relationship between debt ratios and ROE at the beginning of the recession. It means that during bad times, more profitable companies use less debt. Retail companies show a positive relation between ROE and size in the later years; therefore, one can conclude that bigger retail companies have a slightly higher ROE. Since the sample mostly consisted of small and medium-sized companies, which represent three different industries, it would be advisable for future research to include macroeconomic factors as determinants of profitability. SME could be more sensitive to the general state of the economy and these factors could help to explain the dynamics of ROE.

Another sound approach for computing the value of a firm is to determine the present value of its future operating free cash flows. The idea is to draw a comparison between two similar firms. The firm whose present value of future operating cash flows is better than the other is more likely to attract a higher valuation from the investors. Operating Free Cash Flow (OFCF) is calculated by adjusting the tax rate, adding back depreciation, and deducting the amount of capital expenditure, working capital, and changes in other assets from earnings before interest and taxes.

OFCF = Operating Income + Depreciation + Changes in Working Capital – Taxes – Capital Expenditures

This reflects the idea that the enterprise value merely refers to the value of the firm at a particular point in time which considers both the market and book value of the firm. Free cash flow (FCF) is calculated by taking operating cash flows fewer capital expenditures. Free cash flow is an important measure, as it depicts the cash available to support the business's operations and maintain its fixed assets. It is commonly used by investors as part of their overall evaluation of an investment, as it is a key measure of cash flow management practices and a firm's ability to generate enough cash to cover operations and capital assets and it shows if there is any left over for other considerations such as dividend payments, debt repayment, and contributions to increase working capital for future growth (openstax.org, 2023).

The Book Value of Equity (BVE) is also indicative of the enterprise value of the firm. It is the amount received by the common shareholders of a company if all of its balance sheet assets were to be hypothetically liquidated (wallstreetprep.com, 2023). Book value is considered important in terms of valuation because it represents a fair and accurate picture of a company's worth. The figure is determined using historical company data and isn't typically a subjective figure. It means that investors and market analysts get a reasonable idea of the company's worth. Book value is primarily important for investors using a value investing strategy because it can enable them to find bargain deals on stocks, especially if they suspect that a company is undervalued and/or is poised to grow, and the stock is going to rise in price. Stocks that trade below book value are often considered a steal because they are anticipated to turn around and trade higher. Investors who can grab the stocks while costs are low in relation to the company's book value are in an ideal position to make a substantial profit and be in a good trading position down the road (Corporatefinanceinstitute.com/, 2023). The formula is computing the BE is as follows:

BVE = TOTAL ASSETS LESS TOTAL LIABILITIES

Book value equity refers to the value of a company's shareholders' equity as reported in its financial statements. This value is derived from a company's accounting records and represents the historical value of its assets minus its liabilities. The concept of book value equity has been a topic of interest in finance literature due to its relevance in valuing companies and understanding their financial health. This literature review aims to explore the key findings and discussions surrounding book value equity. 1. Book Value Equity and Stock Valuation: Book value equity has long been used as a valuation metric for analyzing stocks. However, several studies have questioned the effectiveness of book value as a reliable measure of a firm's true value. For instance, Lev and Thiagarajan (1993) suggest that book value equity may not accurately reflect the true economic value of a company, especially in industries with significant intangible assets.

Numerous studies have aimed to determine the extent to which book value equity aligns with market valuations. Penman and Zhang (2002) find that book value equity is a useful measure for estimating market value but suggest that other factors, such as future growth opportunities, should be considered for accurate valuation. Researchers have also investigated the relationship between book value equity and firm performance. Book value is considered to capture a firm's accumulated value over time. A study by Riahi-Belkaoui and Picur (2002) indicates that book value equity positively correlates with firm performance, indicating that companies with higher book values tend to exhibit better financial performance. Despite its importance, book value equity has faced criticism due to its shortcomings. Lev (2001) argues that book value equity does not account for intangible assets or intellectual capital, which can significantly impact a firm's value. Additionally, book value equity relies on historical costs, which may not reflect current market conditions accurately. The concept of book value equity holds significance in finance and accounting literature for evaluating stock

values, determining firm performance, and analyzing market valuations. While it is a widely used measure, researchers acknowledge the limitations of book value equity, and suggest supplementing it with additional metrics for a comprehensive analysis of a company's value and financial health.

Pieces of literature provided different propositions regarding the effect of financial leverage on the enterprise value of a business entity. Relatedly, the Modigliani and Miller Approach introduced two propositions about the relationship of financial leverage and the enterprise value. Under the proposition no. 1, it says that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has a lower debt component has no bearing on its market value. Rather, the market value of a firm is solely dependent on the operating profits of the company. On the other hand, Proposition no. 2 provides that the financial leverage is in direct proportion to the cost of equity. With an increase in the debt component, the equity shareholders perceive a higher risk to the company. Hence, in return, the shareholders expect a higher return, thereby increasing the cost of equity. A key distinction here is that Proposition 2 assumes that debt shareholders have the upper hand as far as the claim on earnings is concerned. Thus, the cost of debt reduces. This theory recognizes the tax benefits accrued by interest payments. The interest paid on borrowed funds is tax deductible. However, the same is not the case with dividends paid on equity. In other words, the actual cost of debt is less than the nominal cost of debt due to tax benefits. The trade-off theory advocates that a company can capitalize its requirements with debts as long as the cost of distress, i.e., the cost of bankruptcy, exceeds the value of the tax benefits. Thus, the increased debts, until a given threshold value, will add value to a company (ibsindia.org, 2022). These school of thoughts simply show that the entity's financial leverage can either positively or negatively affect the enterprise value of a business entity which may be anchored on the framework that financial leverage has relation to enterprise value as shown below:

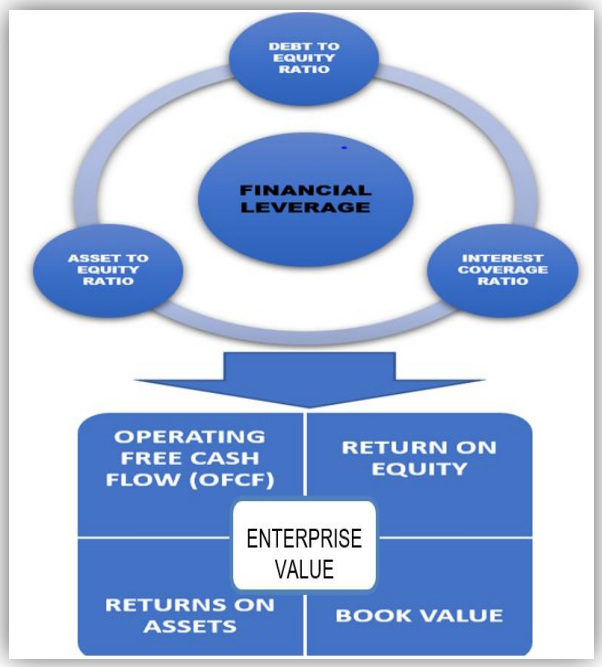

Figure 1. Framework of the Study

Financial leverage refers to the use of debt to finance a company's operations or investments. It is an important aspect of a company's capital structure and has a significant impact on the overall value of the enterprise. The findings of the study conducted by Smith, et.al., 2018 suggest a positive relationship between financial leverage and enterprise value,

indicating that higher levels of debt can increase firm value in these economies. The study of Chen, et.al., 2019 compares the relationship between financial leverage and enterprise value in the manufacturing and service sectors. Through regression analysis, the results indicate a positive correlation between financial leverage and enterprise value in both sectors, but with varying degrees of significance. The manufacturing sector shows a stronger relationship compared to the service sector. Based on a sample of companies from various industries, the results suggest that financial leverage has a significant negative impact on enterprise value during recessionary periods. This highlights the importance of managing debt levels during economic downturns (Lee, et.al., 2020). The literature review highlights the varying perspectives on the relationship between financial leverage and enterprise value. While some studies indicate a positive relationship, others emphasize the importance of considering factors such as industry sector and economic conditions. Ultimately, it is crucial for companies to carefully manage their financial leverage to optimize enterprise value, taking into account the specific context and market dynamics they operate within.

Several studies revealed that substantial number of the registered businesses in the Municipality of Bulan Sorsogon are engaged in manufacturing business. However, as observed, there is an increasing rate of bankruptcy and business closures in the said Municipality. There were empirical pieces of evidence which suggest that failure of business owners to manage their financial leverage substantially impair their enterprise value that led to gradual cessation of business operation due to insolvency.

It is along this premise why the researchers decided to conceptualize and pursue this research entitled "**THE ENTERPRISE VALUE AND THE FINANCIAL LEVERAGE OF MANUFACTURING INDUSTRIES IN THE MUNICIPALITY OF BULAN SORSOGON, PHILIPPINES: A REGRESSION ANALYSES**". This study is directed towards enhancement of the enterprise value by providing the respondents measures on how they could properly manage their financial leverage.

Objectives of the Study

This study will determine the relationship of the entity's financial leverage to the enterprise value of manufacturing business establishments in the Municipality of Bulan Sorsogon. This will specifically seek to:

1. Determine and assess the financial leverage of manufacturing industries in the Municipality of Bulan Sorsogon, Philippines in terms of debt-to-equity ratio; interest coverage ratio; and asset-to-equity ratio.
2. Determine and assess the enterprise value of manufacturing industries in the Municipality of Bulan Sorsogon, Philippines in terms of book values, operating free cash flow (OFCF); return on equity; and return on assets.
3. To know and establish the relationship of financial leverage and the enterprise value of manufacturing industries in the Municipality of Bulan Sorsogon, Philippines.
4. To explore the factors that influence the financial leverage decisions of the business owners.
5. To make recommendations to enhance the enterprise value of manufacturing industries in the Municipality of Bulan Sorsogon, Philippines.

Methodology

This study used mixed design. The research design was utilized to assess and determine the entity's financial leverage and the enterprise value of manufacturing business establishments in the Municipality of Bulan Sorsogon. Such design was likewise deemed to be the most appropriate approach to establish the relationship between the financial leverage and the enterprise value of the target respondents. Also, this was used to explore the underlying factors that influence the financial leverage decisions of the manufacturing business owners as well as discover measures to enhance the enterprise value of manufacturing business in the Municipality of Bulan Sorsogon.

Registered manufacturing business owners in the Municipality of Bulan Sorsogon were the primary respondents of this research. Financial figures from their financial statements (Years 2020 to 2023) and their sentiments were the main source of data for analyses. Based from

the data supplied by the licensing department of the LGU Bulan, there were 119 registered manufacturing businesses in the Municipality as shown in the table 1:

Table 1. Research Population

Form of Business Establishments	Total No. of respondents	%
Corporation	3	2.5%
Sole Proprietorship	116	97.5%
Total	**119**	**100%**

As presented in table 1, only 3 (2.5%) out of the total 199 manufacturing businesses are operating as corporation and the rest (97.5%) are all registered as sole proprietorship. However, for the purpose of this study, only 92 of the total population were considered as the actual respondents as depicted on table 2.

Table 2. Actual Respondents (Population = 119; Sample Size @ 95% Confidence level = 92)

Form of Business Establishments	Total No. of respondents	%
Corporation	3	3.26%
Sole Proprietorship	89	97.74%
Total	**92**	**100%**

The data taken from the actual respondents were analyzed using documentary analyses and the interviews with key informants (KIs). Documentary analyses was used to quantitatively account and determine the entity's financial leverage and the enterprise value of manufacturing business establishments in the Municipality of Bulan Sorsogon based on their reported financial statements. Interviews with KI, on the other hand, were conducted using a structured survey questionnaire. These were done to explore the underlying factors that influence the financial leverage decisions of the business owners as well as discover measures to enhance the enterprise value of manufacturing businesses in the Municipality of Bulan Sorsogon.

The quantitative data were obtained from the financial statements of the registered manufacturing businesses were analyzed using common-size financial statements (vertical) analyses and linear regression analyses. Vertical analyses were used in order to assess and determine the entity's financial leverage and the enterprise value of manufacturing business establishments through the use of financial ratios. Consequently, the results of the vertical analyses were interpreted based on the following scales and adjectival interpretations and descriptions:

A. Financial Leverage (FL)

A.1 Asset to Equity Ratio (AER)

Scales	Adjectival Interpretations	Descriptions
Above 2	High	If the ratio is high, it suggests that a larger proportion of the company's assets is financed by debt rather than equity.
2	Balanced	A balanced asset to equity ratio indicates a relatively equal mix of equity and debt financing.
Below 2	Low	If the ratio is low, it indicates that a significant portion of the company's assets is financed by equity owners.

Source: wallstreetprep.com (2023)

A.2 Debt to Equity Ratio (DER)

Scales	Adjectival Interpretations	Descriptions
Above 1	High	A high debt to equity ratio indicates that the company has a higher level of debt compared to its equity.
1	Balanced	A balanced debt to equity ratio indicates a relatively equal mix of equity and debt financing.
Below 1	Low	A low debt to equity ratio indicates that the company has a lower level of debt relative to its equity.

Source: wallstreetprep.com (2023)

A.3 Interest Coverage Ratio (ICR)

Scales	Adjectival Interpretations	Descriptions
Above 1	High	A high interest coverage ratio would be considered favorable or strong. This indicates that the company's operating income is significantly higher than its interest expenses, providing a comfortable cushion to meet its debt obligations.
1	Balanced	A balanced interest coverage ratio indicates that the company's operating income can fairly meet its debt obligations.
Below 1	Low	A low interest coverage ratio would be considered unfavorable or weak. This implies that the company's operating income is insufficient to cover its interest expenses, potentially indicating financial strain.

Source: wallstreetprep.com (2023)

B. Enterprise Value (EV)

B.1 Return on Assets

Computed %	Adjectival Interpretations	Descriptions
At least 1.22%	High	A high enterprise value suggests that the company is highly valued in the market, indicating strong financial performance, growth prospects, and investor confidence.
Less than1.22%	Low	A low enterprise value may indicate lower market perception of the company's worth, potentially reflecting weaker financial performance or growth prospects.

Source: statista.com (2022)

B.2 Return on Equity

Computed %	Adjectival Interpretations	Descriptions
At least 5.93%	High	A high ROE suggests that the enterprise is generating significant returns on the equity invested, indicating efficiency and effective use of shareholder funds.
Less than 5.93 %	Low	A low ROE indicates that the enterprise is not generating substantial returns in relation to the equity invested, suggesting inefficiency or underperformance in utilizing shareholder capital or equity.

Source: world bank (2023)

B.3 Operating Free Cash Flow

Computed %	Adjectival Interpretations	Descriptions
Positive Numerical Value	High	A positive FCF indicates that the enterprise has surplus cash available after meeting its operational and investment needs, which can be used for various purposes such as debt repayment, dividend payments, or reinvestment in the business.
Negative Numerical Value	Low	A negative FCF indicates that the enterprise is generating less cash than it is spending, which may indicate financial constraints or the need to rely on external financing sources.

Source: wallstreetprep.com (2023)

B.4 Book Value

Computed %	Adjectival Interpretations	Descriptions
Positive Numerical Value	High	A high book value suggests that the enterprise has accumulated significant assets and equity over time, indicating a strong financial position.
Negative Numerical Value	Low	A low book value may indicate that the enterprise has experienced losses or has a relatively small asset base compared to its liabilities, suggesting potential financial risks or challenges.

Linear regression was utilized in order to create a model depicting which among the determinants of financial leverage is/are predictor/s of enterprise value. The applications and functions of these correlation and regression analyses will be made easier through the aid of the Statistical Packages for the Social Science (SPSS).

The data gathered from the KIs were transcribed and coded to disclose the factors that influence the financial leverage decisions of the business owners as well as discover measures to enhance the enterprise value of manufacturing business in the Municipality of Bulan Sorsogon. The external validity of the study results shall be deemed as the main delimitation of this

paper. As a result, the findings of this undertaking could not be generalized to other populations or businesses outside the municipality. As protection to the respondents, all the data will be used and kept by the researchers with strict adherence to the provisions of Privacy Act of the Philippines.

RESULTS AND DISCUSSION

A. Financial Leverage (FL)

Financial leverage results from using borrowed capital as a funding source when investing to expand the enterprise asset base and generate returns on risk capital (Hayes, 2022). In this research, the FL is represented by the Asset-to-Equity Ratio (AER), Debt-to-Equity Ratio (DER) and Interest Coverage Ratio (ICR) based on the data from the financial statements (years 2020 to 2023) provided by the actual respondents which were analyzed using vertical analyses as shown in table 3.

Based on the table, the financial leverage of the manufacturing industries in the Municipality of Bulan Sorsogon, Philippines was low with respect to **ICR (.87x)** but high in terms of the **AER (3.95x)** and **DER (2.95x)**, respectively. Such figures simply show that respondents generally prioritize financial leverage as a means of financing its business.

Table 3. Financial Leverage – Vertical Analyses

Measure of Financial Leverage	Computed Ratios	Assessment
AER	3.95x	HIGH
DER	2.95x	HIGH
ICR	0.87x	LOW

Source: Financial Reports (Years 2020-2023)

The computed AER of 3.95x was materially above the point of equilibrium of 2.0x shows that entity's assets were from borrowed capital from outside creditors. This means that the total assets of the respondents are 3.95 times bigger than its company's equity which suggests that a larger proportion of the company's assets held by the manufacturing business owners was financed through debt financing rather than equity securities. The result implies that respondents preferred to use debt securities to finance its business instead of internal financing. The computed AER may be attributed to the fact that most of the respondents commonly venture into debt financing as a means of generating cash flows to support the day-to-day business and they used their long-term tangible assets as collateral to their borrowings. This may be linked to the notion explained by Jensen & Meckling (1976) that companies that have substantial tangible assets, the higher the company's ability to use debt to finance the company because tangible assets can be used as collateral for debt and reduce debt agency costs. Titman & Wessel (1988) explain the positive effect of leverage. Asset structure influences positively to leverage in terms of the proportion of long-term debt, the proportion of total debt and the proportion of debt market value to total assets.

As revealed by the vertical analyses, the financial leverage of the respondents in terms of the DER was also high with a computed value of 2.95x and substantially exceeded the ceiling of 1x. This indicates that the company has a higher level of debt compared to its equity. The value of 2.95x means that the liabilities of the respondents from the outside source is 2.95 times larger than their personal capital. Similar to AER, the resulting DER manifests that the respondents chose financial leverage as a means of business financing. This strongly suggests that the company relies more on debt financing and may have a higher risk of financial instability. It may be seen as more leveraged and potentially facing challenges in meeting its debt obligations. Accordingly, plethora of literatures provide that a high debt-to-equity ratio indicates that a company is borrowing more capital from the market to fund its operations, while a low debt-to-equity ratio means that the company is utilizing its assets and borrowing less money from the market. Capital industries generally have a higher debt-to-equity ratio. In contrast, industries packed with services and

technology have lower capital and growth needs on a comparative basis and therefore may have a lower DE (wallstreetprep.com, 2023). The wealth of literatures showed that Debt to Equity Ratio is a ratio that describes how much the owner's capital can cover debts to creditors. The higher these ratios, the higher the number of funds that must be guaranteed by own capital (Rudianto, 2013 as cited by Nasution, 2018). Meanwhile, the most effective activity ratio used is the total asset turnover. Total Asset Turnover is a ratio that shows total asset turnover measured by sales volume in other words, how far the ability of all assets creates sales. This ratio can explain how successful a company is in utilizing its assets to generate profits. If a company can make sales using assets at a minimum, it will result in a higher asset turnover ratio (Harahap, 2013).

The financial leverage of the manufacturing business owners in terms of ICR was unfavorable or weak with a computed ICR value of .87x. The result implies that the company's operating income is insufficient to cover its interest expenses, potentially indicating financial strain. Based from this result, it can be stated that the respondents have higher risk of defaulting on their debt and would probably place them in an unfavorable situation to handle financial challenges that would eventually lead to an increase in the company's cost of borrowing. The insufficiency of the operating income would likewise result to unnecessary charges against the capital of the company that would redound to capital deficiency. Baños-Caballero et.al. (2014) expounded that the company's ICR covers the increased interest rates and costs as well as the inflation during the loan period by taking into account the total company's interest expenses at the end of this period; hence it has an economic justification that considers the lost opportunity costs as well. A low interest coverage ratio raises concerns about the company's ability to meet its debt obligations and may suggest a higher risk of default. Consequently, the current lower ICR of the respondents may be unattractive to investors because it may mean the company is not poised for growth and is reflective of the business incapacity to pay the long-term maturing obligation. Hence, as shown in the foregoing, the manufacturing business enterprises in the Municipality of Bulan Sorsogon have high (AER and DER) and unfavorable (ICR) financial leverage which indicates that the entities have significant amount of debt relative to its equity.

B. Enterprise Value (EV)

Firm value, also known as firm value, defines as investors' collective assessment of how well a firm condition in current and in the future. Usually, firm value related with the share prices. Firm value is very important because with high corporate value will be followed by high shareholder wealth (Kurniawan, 2018). Firm value also defines as market value because firm value provides shareholders wealth if the share price is increasing.

In this study, EV refers to the computed Return on Assets, Return on Equity, Operating Free Cash Flows and Book Values of the respondents' business enterprises based on their financial reports for the years 2020 to 2023 using common-size financial statement analyses. As shown in table 4, manufacturing business enterprises in the Municipality of Bulan Sorsogon were found to have a low enterprise value with exception to company's book value with a positive numerical value.

By and large, the result may be indicative of lower market perception of the company's worth, potentially reflecting weaker financial performance or growth prospects. Specifically, the computed ROA (1.07%), ROE (2.70%) and the negative numerical value of the OFCF averaging to *-258,904.50* are reflective of the unfavorable enterprise value of the business entities owned by the respondents. The Return on Assets (ROA) would be a measure of the profitability or efficiency of an enterprise's assets. It indicates how effectively the enterprise is utilizing its assets to generate profits.

Table 4. Enterprise Value – Vertical Analyses

Measures of Financial Leverage	Computed Values	Description
ROA	1.07%	LOW
ROE	2.70%	LOW
OFCF	(258,904.50)	LOW
BV	+156,230.15	HIGH

Source: Financial Reports (Years 2020-2023)

It can be gleaned from table 4 that the enterprise value of the subject manufacturing businesses in the Municipality of Bulan Sorsogon was low with respect to ROA with a very minimal **computed value of only 1.07%.** Such value was below the average standard rate of return on asset based as of year 2022 which suggests a lower market perception of the company's worth, potentially reflecting weaker financial performance or growth prospects. From this result, it can be noted that the respondents might have over-invested in assets that have failed to produce revenue growth which is a sign of inefficiency in the utilization of company's resources that would possibly place the company in some trouble. According to Hargrave (2022) a high ROA suggests that the enterprise is generating significant profits relative to its asset base, indicating efficiency and effective asset management. Conversely, a low ROA indicates that the enterprise is not generating substantial profits in relation to its assets, suggesting inefficiency or underutilization of resources. Literature further stated that a negative Return on Assets cannot increase stock returns, because the lower the Return on Assets, the lower the company can take advantage of the assets owned so that it cannot increase company profits (Gunadi & Kesuma, 2015, Putra & Kindangen, 2016, as cited by Kurniawan, 2021). Companies with large Return on Assets will attract investors to invest their funds into the company.

On one hand, ROE tells what percentage of profit the company makes for every monetary unit of equity invested in the company. ROE doesn't specify how much cash will be returned to the shareholders, since that depends on the company's decision about dividend payments and on how much the stock price appreciates. However, it's a good indication of whether the company is even capable of generating a return that is worth whatever risk the investment may entail (Berman, Knight and Case, 2013). In this study, it was revealed that manufacturing business entities in the Municipality of Bulan Sorsogon were equally found to have a low enterprise value in terms of the **ROE with only 2.70% computed value** which was below the average ROE of 5.93% as determined by the world bank as of the year 2022. This computed ROE shows that the respondents were not generating substantial returns in relation to the equity invested, suggesting their inefficiency or underperformance in utilizing shareholder capital. This means that the respondents' business was not operating under a favorable financial performance and was not highly profitable manifesting the business incapacity to pay dividends and returns to the equity holders or owners. According to Fernando (2023), return on equity (ROE) is the measure of a company's net income divided by its shareholders' equity. ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits.

With respect to respondents' Operating Free Cash Flows, the study revealed a **computed negative numerical value of (258,904.50)** which means low enterprise value. This result indicates that the manufacturing business enterprises in the Municipality of Bulan Sorsogon was generating less cash than it is spending, which may indicate financial constraints or the need to rely on external financing sources. The Operating Free Cash Flow (OFCF) is calculated by adjusting the tax rate, adding back depreciation, and deducting the amount of capital expenditure, working capital, and changes in other assets from earnings before interest and taxes (openstax.org, 2023). As such, the computed negative OFCF clearly shows that the respondents were experiencing cash deficiency which may be

attributed to higher cost of financial leverage and lesser profitability of the business operation which is a reflection of an unfavorable cash flows. Fernando (2023) had elaborated that a positive FCF indicates that the enterprise has surplus cash available after meeting its operational and investment needs, which can be used for various purposes such as debt repayment, dividend payments, or reinvestment in the business. This suggests financial strength and the ability to pursue growth opportunities or return value to shareholders. Contrarywise, a negative FCF indicates that the enterprise is generating less cash than it is spending, which may indicate financial constraints or the need to rely on external financing sources.

On the other hand, the respondents were found to have a favorable firm value based on the book value with a positive average value of 156,230.15. This suggests that manufacturing businesses in the Municipality of Bulan Sorsogon have accumulated significant assets and equity over time, indicating a strong financial position. This simply means that respondents were not yet capital deficit despite issues in the financial leverage and unfavorable financial profitability and may still receive portion of the company's assets should the same be terminated. This can be linked to the idea of Ross (2021) which provides that Book Value represents the net worth of the enterprise based on historical cost and accounting principles. The book value can be used as a reference point to assess the financial health and stability of the enterprise. A high book value suggests that the enterprise has accumulated significant assets and equity over time, indicating a strong financial position. On the contrary, a low book value may indicate that the enterprise has experienced losses or has a relatively small asset base compared to its liabilities, suggesting potential financial risks or challenges.

Linear Regression Analyses Results

C. Relationship between Financial Leverage and Enterprise Value of manufacturing industries in the Municipality of Bulan Sorsogon, Philippines.

Under these analyses, the computed financial leverage of the respondents in terms of Asset-to-Equity Ratio (AER), Debt-to-Equity Ratio (DER) and Interest Coverage Ratio (ICR) based on the financial reports for the years 2020 to 2023 using common-size financial statement analyses were regressed separately against the computed firm value in terms of Return on Assets (ROA), Return on Equity (ROE), Operating Free Cash Flows (OFCF)and Book Values (BV) of the respondents' business enterprises.

For such purpose, the determinants of the Financial Leverage including the AER, DER and ICR were the independent variables while the enterprise value as represented by the ROA, ROE, OFCF and the BV were the dependent variables.

C.1 Financial Leverage in relation to ROA

Table 5 presents the results of the regression analyses which show the relation ship between the financial leverage and the firm value in terms of ROA.

Table 5. Linear Regression Analyses - ROA

Independent Variables	Coefficients, β	Sig.	Std. Error	Collinearity Statistics	
				Tolerance	VIF
Constant	1.207	.000	.138		
AER	-.014	.384	.016	.977	1.024
DER	.025	.005**	.009	.980	1.020
ICR	-.177	.180	.131	.996	1.004
F Value	3.868				
R Square	.117				
Adjusted R Square	.086				

*** Significant at the 0.5 level*

As shown in table 5, among the three (3) variables of financial leverage, only DER (p=.005) was found to significantly affect the enterprise value in terms of ROA. The positive

coefficient of the DER (β=.025) suggests that a one-point increase in the debt-to-equity ratio will increase the ROA by .025 points. From this trend, a linear regression model of (Y=.005DER + .025) was formulated where y represents the enterprise value in terms of ROA. The model shows that improving the financial leverage (DER) of the manufacturing businesses would mean a minimal increase in the firm value. This can be associated to the result of the study conducted by Lee (2020) that financial leverage has a significant negative impact on enterprise value during recessionary periods. This highlights the importance of managing debt levels during economic downturns. Accordingly, Kasmir (2016) found out that the higher the ROA value of a company, the better the company's ability to manage its assets. It was stated that the next factor that is thought to affect firm value is the Debt-to-Equity Ratio (DER). DER is the ratio used to measure the debt used by a company to its own capital. The increase and decrease in the level of debt has an influence on market value. Companies that have high leverage can have an impact in the form of a greater risk of loss opportunities due to the obligation to pay interest which will reduce the company's net profit, but the use of debt can also provide an opportunity to get large profits (Septyanto, 2021).

The collinearity statistics for each regression model exhibited a high acceptable levels of tolerance values which were comfortably above the recommended minimum level of tolerance value of .20 (Menard, 1995). The regression results also disclosed high acceptable levels of variance inflation factors (VIF) which did not exceed the recommended maximum VIF value of 5. The tolerance and VIF values generally indicate that there was no evidence of multicollinearity in the regression results. This further show that there were no overlapping independent variables in the regression analyses which could adversely affect the results as evidenced by minimal standard errors.

C.2 Financial Leverage in relation to ROE

Table 6 presents the results of the regression analyses which show the relationship between the financial leverage and the firm value in terms of ROE.

Table 6. Linear Regression Analyses - ROE

Independent Variables	Coefficients, β	Sig.	Std. Error	Collinearity Statistics	
				Tolerance	VIF
Constant	1.029	.000	.818		
AER	.064	.506	.095	.977	1.024
DER	.157	.003**	.052	.980	1.020
ICR	.330	.670	.773	.996	1.004
F Value	3.125				
R Square	.096				
Adjusted R Square	.065				

*** Significant at the 0.5 level*

Table 6 reveals that only DER (p=.003) was found to significantly affect the enterprise value in terms of ROE. The positive coefficient of the DER (β=.157) suggests that a one-point increase in the debt-to-equity ratio will probably increase the ROE by .157 points. Taking the result into consideration, DER is predictive of the status of the company's enterprise value using a linear regression model of (Y=.003DER + .157). This means that a minor change in the financial leverage (DER) would mean material effect to the firm value (ROE) of the manufacturing industries in the Municipality of Bulan Sorsogon. This result validates the researches conducted by Hantono (2015) which states that Debt to Equity Ratio has a significant effect on Return on Equity. Furthermore, research conducted by Rizki (2015) states that the Total Turn Over Assets is affected by Return on Equity. Similar to regression results in table 5, no overlapping independent variables exist in the regression analyses as shown by the computed tolerable values and the VIF.

C.3 Financial Leverage in relation to OFCF

The results of the regression analyses concerning the financial leverage and the firm value in terms of OFCF of the respondents are presented in table 7.

Table 7. Linear Regression Analyses - OFCF

Independent Variables	Coefficients, β	Sig.	Collinearity Statistics	
			Tolerance	VIF
Constant	-275365.998	.000		
AER	132.798	.818	.977	1.024
DER	-.257	.999	.980	1.020
ICR	18227.36	.001**	.996	1.004
F Value	5.099			
R Square	.148			
Adjusted R Square	.119			

*** Significant at the 0.5 level*

As presented in Table 7, ICR (p=.001) significantly predicts the enterprise value in terms of OFCF. The positive coefficient of the ICR (β=18227.36) suggests that a one-point increase in the interest coverage ratio positively affect the firm value (OFCF). Given such result, the ICR may predict the probable variation in the enterprise value of manufacturing businesses in the Municipality of Bulan Sorsogon using a linear regression model of (Y=.001ICR + 18227.36). This further imply that the interest expense and the borrowing costs incurred by the respondents significantly affect the cashflows of the entity.

One common finding in the literature is that a higher interest coverage ratio is generally associated with a positive impact on free cash flow. A higher interest coverage ratio indicates that a company has sufficient earnings to cover its interest expenses, which can contribute to a stronger cash flow position and potentially higher free cash flow (Hayes, 2023). It was stated further that a high ICR suggests better profitability, providing a higher guarantee based on which the firm may deal with its debt (i.e., bank debt, bonds, and notes) from effective incomes in a similar period (Robinson et al., 2015).

C.4 Financial Leverage in relation to BV

Table 8 depicts the results of the regression analyses concerning the financial leverage and the firm value in terms of BV.

Table 8. Linear Regression Analyses - BV

Independent Variables	Coefficients, β	Sig.	Collinearity Statistics	
			Tolerance	VIF
Constant	165213.873	.000		
AER	-261.424	.559	.977	1.024
DER	-502.597	.041	.980	1.020
ICR	-7397.802	.044	.996	1.004
F Value	2.838			
R Square	.088			
Adjusted R Square	.057			

*** Significant at the 0.5 level*

The figures revealed that none of the AER, DER and ICR affect the enterprise value of the manufacturing businesses in the Municipality of Bulan Sorsogon. This simply means that the financial leverage neither diminishes nor enhances the company's book value. The results contradict the study by Riahi-Belkaoui and Picur (2002) which indicated that book value

equity positively correlates with firm performance, indicating that companies with higher book values tend to exhibit better financial performance. The collinearity statistics shows that no overlapping independent variables exist in the regression analyses as shown by the computed tolerable values and the VIF.

Results of Key Informants (KI) Interviews

Interviews with KIs were conducted using a structured survey questionnaire to explore the emergent patterns and factors that influence the financial leverage decisions of the manufacturing business owners. and identify measures by which it could be enhanced.

D. Factors that influence the financial leverage decisions of the business owners.

The results of KI interviews concerning the factors that affect financial leverage decisions of the participants are summarized and discussed below. Based from the sentiments of the participants, the financial leverage decision, which refers to the use of debt to finance a company's operations and investments, is influenced by the following factors.

1. **Lack of Personal Capital.** Most of the manufacturing business owners constantly mentioned during the interview that they resorted to debt financing due to unavailability of personal capital to sustain their businesses. As such, they usually offer their personal and real properties as security to their loans. Accordingly, some of the informants said:

   "Usually, nag-uutang kami kwarta sa mga lending institution para sa negosyo (Usually, we borrow money from lending institution for business purposes)." – Business owner, 40 years old

   "Minsan ingagarantiya mi ang pagsadiri mi para makautang pangbatog negosyo. Wara kaya nag papautang na bangko pag wara sin garantiya. (Sometimes, we guarantee our property to obtain loan to start up business. No bank will extend loan without the guarantee)." – Business owner, 43 years old

   From the above-mentioned sentiments, it can be noted that the financial leverage decisions of the participants are influenced by the absence of personal capitalization the incapacitate them to venture into equity funding instead of debt securities.

2. **Financial Risk Tolerance and Cost of Debt.** This is another factor identified by the participants drives them to pursue debt financing to put up and sustain the business. Financial risk tolerance refers to an individual's or an organization's willingness and ability to withstand potential losses or fluctuations in their financial investments or activities. It is a measure of how much risk an entity is willing to take on in pursuit of potential financial gains (Grable, 1999). The participants repeatedly uttered that:

   "Hadok ako mag utang kay kadako pano san interest na inbabayadan kaya lang wara man ako iba na makukuwaan kapital. (I am afraid to borrow money due to higher interest payment but I have no other source of capital.)" – Business owner, 36 years old

   "Nag loloan talaga ako pandagdag kapital maski hataas ang interest rate. (I usually obtain loan for additional capital despite higher interest rate.)" – Business owner, 56 years old

   Each company has its own risk tolerance level, which is influenced by factors such as management's risk appetite, the company's financial stability, and its ability to handle debt obligations. Companies with a higher risk tolerance may be more inclined to use higher levels of financial leverage. On the other hand, a low financial risk tolerance suggests a preference for more conservative and stable investments with lower potential returns. Individuals or organizations with low risk tolerance may prioritize capital preservation and prefer investments with lower volatility and a higher degree of certainty. The cost of bor-

rowing, including interest rates and fees associated with debt financing, is an important consideration. Lower borrowing costs may make debt financing more attractive, while higher costs may discourage excessive leverage.

3. **Cash flow stability.** The participants considered cash flows stability as factor in deciding their financial leverage. Participants revealed that the unavailability of cash flows to meet the recurring costs of doing business significantly affect their decision to look for financing entities that would extend loans to them. They often sought assistance from financial and lending institution as their means to provide for their business needs despite issues on their cashflows. Some of the participants expounded that:

"Wara kasi kami cash at mayad na source sin cash kaya nangutang kami kwarta sa mga lending para panggastos sa business (We don't have cash and better source of cash that is why we borrow money from lending for the business expenses and costs)." – Business owner, 57 years old

The stability and predictability of a company's cash flows play a significant role in determining the appropriate level of financial leverage. Companies with stable and consistent cash flows are generally better positioned to handle debt obligations.

4. **Growth opportunities**. Companies with attractive growth prospects may be more willing to take on debt to finance these opportunities. According to the participants, the availability of growth opportunities, such as new projects, acquisitions, or expansion into new markets, can influence their financial leverage decision. They cited that opportunities for growth and expansion urge them to recourse to loans and borrowings to timely finance and take advantage of such investment opportunities. The participants said that:

"Nagkakautang ako kasi kung minsan may nag aabot na pagkakataon para mag expand business kaya lang wara cash. (I incur debt because sometimes there are opportunities to expand business but there is no cash)." – Business owner, 47 years old

"Pag may oportunidad okay lang mag utang kwarta. (If there is opportunity, it is okay to borrow money)." – Business owner, 59 years old

One key finding in the literature is that companies with higher growth opportunities tend to have lower levels of financial leverage. This is because companies with greater growth prospects often require more funds to finance their expansion plans, such as investing in new projects, research and development, or entering new markets. As a result, these companies may choose to rely more on internal sources of financing, such as retained earnings, rather than taking on additional debt. Contrariwise, companies with limited growth opportunities may have higher levels of financial leverage. These companies may have fewer investment opportunities and may choose to use debt financing to fund their operations or acquisitions.

5. **Regulatory and legal considerations:** Companies must also consider any regulatory or legal restrictions on their ability to use financial leverage. More than majority of the participants held that:

"Okay lang mangutang. Wara man nakukulong sa utang. (It is okay to borrow. No one is imprisoned for nonpayment of debt)." – Business owner, 59 years old

"Minsan habo ko mag-utang kwarta kay kadaghan loan requirements. (Sometimes I don't want to borrow money due to lot of loan requirements)." – Business owner, 48 years old

Compliance with debt covenants, regulatory requirements, and debt-to-equity ratios may limit the amount of leverage an entity can undertake.

Outputs

This research contributes to the body of knowledge. Manufacturing business owners may adopt the measures recommended by this study to enhance their financial leverage decisions as well as improve the enterprise value. Educators and researchers may similarly utilize the results of the study as material for academic instruction and as reference for future studies on a similar or related topic.

Conclusions and Recommendations

This study concludes that the manufacturing business enterprises in the Municipality of Bulan Sorsogon have significant amount of debt relative to its equity as manifested by its financial leverage. The respondents were likewise found to have a low enterprise value, with exception to company's book value, which suggests a lower market perception of the company's worth, potentially reflecting weaker financial performance or growth prospects. Debt-to-equity ratio significantly affect the enterprise value in terms of ROA and ROE with (Y=.005DER + .025) and (Y=.003DER + .157) as regression models, respectively. On one hand, the interest coverage ratio significantly predicts the enterprise value in terms of OFCF using a linear regression model of (Y=.001ICR + 18227.36). Lack of personal capital, financial risk tolerance and cost of debt, cash flow stability, growth opportunities and regulatory and legal considerations were the identified factors that influence the financial leverage of the manufacturing business owners.

From the results of the study, the researcher highly recommends that manufacturing business owners may consider optimizing their capital structure to ensure an appropriate balance between debt and equity. This may involve refinancing debt, reducing interest expenses, or raising additional capital to fund growth initiatives. They may likewise enhance financial performance by focusing on improving revenue growth, profitability, and cash flow generation by means of cost optimization, increasing sales, expanding into new markets, or diversifying product offerings. Future researches with a more in-depth approach may be conducted to establish a stronger relationship among the studied variables.

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