

# Identification of the Factors and Consequences of Earnings Management in the Chemical Products and Automotive Parts Manufacturing Industries Using the Meta-Synthesis Approach and Expert Opinions

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## ABSTRACT

Due to their process complexity and high levels of investment, industries exhibit significant sensitivity to the transparency and accuracy of financial reporting. Earnings management may temporarily enhance the financial health of firms; however, in the long term, it leads to a decline in stakeholder trust, disruption in investors' decision-making, and reduced efficiency in the capital market. Moreover, identifying the consequences of earnings management contributes to improving regulatory frameworks and enhancing the quality of detecting and reporting financial misconduct within these industries. This, in turn, paves the way for sustainable development and fair competition in both domestic and international markets. The present study was conducted with the objective of identifying the factors and consequences of earnings management in the chemical products and automotive parts manufacturing industries. Data collection was performed through semi-structured interviews with experts. Using the snowball sampling technique, interviews were conducted with 15 academic experts and senior managers from active companies within the chemical products and automotive parts industries. The data were analyzed through a meta-synthesis approach and expert judgment. The Content Validity Ratio (CVR) was used to assess content validity, and Holsti's coefficient was applied to measure reliability. The identified factors included financial leverage, stock liquidity, free cash flow, information asymmetry, long-term effective tax rate, institutional ownership, executive management ownership, board size, profitability, differentiation strategy, cost leadership strategy, and corporate social responsibility. The identified consequences comprised cash holding level and tax avoidance.

**Keywords:** Earnings management, Factors, Consequences, Meta-synthesis.

## 1. Introduction

Earnings management is widely recognized as one of the most debated and multifaceted topics in accounting and finance, referring to the deliberate intervention by management in the financial reporting process to influence reported outcomes. Over the decades, the concept has evolved from a narrow focus on accrual manipulation to a more comprehensive understanding that includes real activity management and behavioral motivations underlying corporate decisions (Abraham & Kumar, 2025). The complexity of earnings management arises from its intersection with executive compensation, corporate governance, market competition, and managerial psychology, making it an important lens through which to assess organizational integrity and reporting quality (Bui, 2024). As global financial markets become increasingly transparent and competitive, the motivations and consequences of earnings management have diversified across contexts and industries (Sharma et al., 2025).

Recent scholarship has emphasized that earnings management is not solely a product of opportunistic manipulation but often reflects strategic adaptation to regulatory, market, or contractual pressures (Abraham & Kumar, 2025). According to (Bui, 2024), research in this field has progressed through three main phases: accrual-based earnings management, real activity manipulation, and the integration of behavioral and psychological dimensions. Each phase has expanded the theoretical understanding of managerial discretion in financial reporting. (Abraham & Kumar, 2025) further argues that understanding decades of earnings management requires recognizing it as a managerial tool for balancing performance expectations, investor confidence, and compliance with accounting standards.

Within the theoretical framework of agency theory, earnings management arises from conflicts of interest between managers and shareholders. Managers may manipulate earnings for personal benefits such as bonuses or reputation, whereas shareholders seek accurate and reliable information for decision-making (Boachie & Mensah, 2022). However, not all earnings management is necessarily deceptive. In some cases, it serves as an informational or efficient contracting mechanism that reduces volatility in reported earnings, thereby signaling stability to external stakeholders (Khuong et al., 2022). The debate between opportunistic and informative earnings management

continues to shape both academic discourse and policy development.

Emerging markets provide particularly fertile ground for studying earnings management due to institutional weaknesses, regulatory gaps, and mixed ownership structures. In Vietnam, (Hung & Nguyen, 2025) found that earnings management significantly affects business performance in industrial sectors, implying that managerial discretion is used to sustain investor confidence amid economic volatility. Similarly, in India, (Sharma et al., 2025) demonstrated that executive pay and managerial power exert significant influence on the extent of earnings manipulation, confirming that incentive structures play a pivotal role in shaping financial behavior. These findings highlight that managerial motivations and the institutional environment jointly determine the scope of earnings management.

Corporate governance mechanisms play a dual role in mitigating and enabling earnings management. Strong governance—comprising independent boards, active audit committees, and transparent compensation practices—tends to constrain manipulation by enhancing oversight (Boachie & Mensah, 2022). Nonetheless, in some cases, corporate governance structures may inadvertently encourage cosmetic compliance rather than substantive transparency. For example, (Lakhal et al., 2025) found that firms engaging in waste reduction and sustainability initiatives showed distinct patterns of real earnings management, revealing that environmental strategies can indirectly influence accounting practices. This indicates that corporate social responsibility (CSR) and sustainability reporting may interact with financial disclosure behavior, creating new forms of managerial discretion.

The institutional context also shapes managerial incentives. In countries with robust legal enforcement and investor protection, earnings management is often constrained due to higher reputational and legal risks. Conversely, in environments with weaker regulatory enforcement or limited market transparency, manipulation may persist as a strategic response to institutional voids (Zhang et al., 2024). In China, (Zhang et al., 2024) reported that environmental regulation pressures altered firms' earnings management strategies, as companies balanced financial objectives with compliance costs. Likewise, (Jalali et al., 2024) showed that higher audit quality significantly mitigates both real and aggressive earnings management, underscoring the role of external auditors in sustaining financial integrity.

Behavioral and psychological dimensions have become increasingly central to understanding earnings management. Managerial cognition, emotion, and risk perception can influence how accounting discretion is exercised. (Salehi et al., 2024) identified that psychological traits such as overconfidence and moral disengagement are positively associated with earnings manipulation, especially when internal controls are weak. (Sadeghian & Gerami, 2024) emphasized the importance of auditor awareness of managerial psychology in identifying and mitigating manipulative practices, arguing that the traditional audit approach must be complemented by psychological insight. These studies reinforce that the roots of earnings management are not merely technical but also cognitive and ethical.

Industry-level characteristics and competitive dynamics further explain variations in earnings management. (Comporek, 2025) analyzed real earnings management across industries and found that market competition intensity significantly affects the degree and form of manipulation. In highly competitive sectors, managers are more inclined to engage in real activity manipulation—such as overproduction or abnormal sales—to meet performance targets. (Biswas et al., 2023) confirmed that managerial ability moderates this relationship, showing that more capable managers can conceal manipulation more effectively through legitimate operational choices. These findings suggest that market forces shape the strategic options available for earnings management, with competition serving as both a constraint and an incentive.

Firm-specific factors such as ownership structure, profitability, and life cycle stage also have important implications for earnings management. (Khuong et al., 2022) found that state ownership moderates the relationship between firm life cycle and earnings management behavior, as state-controlled firms often prioritize political and social objectives over profit maximization. This results in lower opportunistic manipulation but potentially higher income smoothing to signal stability. Similarly, profitability pressures may motivate private firms to engage in discretionary reporting to meet analyst forecasts or loan covenants (Boachie & Mensah, 2022).

Financial risk exposure and information quality are also key determinants. (Hsin et al., 2024) examined how information quality interacts with hedging strategies and found that firms with lower information transparency are more prone to manipulate earnings to offset volatility in cash flows. This aligns with (Hung & Nguyen, 2025), who

showed that industrial firms with higher exposure to cyclical risk often resort to earnings management as a buffer against unpredictable market shifts. The interplay between risk management and earnings manipulation highlights the blurred line between legitimate accounting discretion and strategic misrepresentation.

The shift toward environmental and sustainability-focused governance has added another layer of complexity. (Lakhal et al., 2025) revealed that waste reduction initiatives can influence real earnings management behavior, implying that corporate environmental actions have accounting repercussions. This supports the argument by (Boachie & Mensah, 2022) that CSR activities, while enhancing corporate legitimacy, may simultaneously increase managerial opportunities to adjust reported outcomes in socially acceptable ways. In this regard, sustainability and transparency become intertwined—each shaping the incentives and boundaries of managerial reporting behavior.

The relationship between earnings management and firm performance continues to attract scholarly attention. (Hung & Nguyen, 2025) showed that while short-term earnings manipulation can enhance perceived performance, long-term reliance on such strategies erodes market credibility and firm value. (Boachie & Mensah, 2022) found that high-quality corporate governance can mitigate these negative effects by ensuring alignment between financial reporting and actual performance. Similarly, (Comporek, 2025) and (Biswas et al., 2023) observed that the disciplinary effect of competition varies across industries, with managerial ability determining whether competition suppresses or redirects manipulation.

From a holistic perspective, contemporary research suggests that earnings management should be studied as a socio-economic and psychological process embedded within organizational systems (Bui, 2024). (Sadeghian & Gerami, 2024) and (Salehi et al., 2024) advocate for frameworks that integrate auditing psychology with managerial behavior, while (Zhang et al., 2024) and (Lakhal et al., 2025) stress the need to account for environmental and ethical dimensions. This interdisciplinary approach recognizes that earnings management is influenced by interdependent factors including governance design, regulatory context, cognitive biases, and corporate culture.

Despite extensive research, gaps remain in integrating qualitative expert insights with empirical findings. As noted by (Abraham & Kumar, 2025) and (Bui, 2024), prior studies have predominantly examined isolated determinants rather than exploring the simultaneous effects of structural,

strategic, and behavioral variables. The role of executive cognition, ownership structure, and industry dynamics in shaping earnings management patterns remains underexplored, especially in complex manufacturing sectors where both tangible and intangible assets drive reporting discretion (Hsin et al., 2024; Jalali et al., 2024). Furthermore, contextual differences between industries—such as chemical manufacturing and automotive components—demand nuanced frameworks that combine expert interpretation with systematic literature synthesis.

In conclusion, earnings management represents a multifaceted organizational behavior that intertwines accounting discretion, corporate governance, executive psychology, and market forces. Understanding this phenomenon requires integrating diverse perspectives—from financial theory to behavioral and sustainability dimensions—to reveal how internal and external factors shape managerial reporting choices. Accordingly, the present study aims to identify and analyze the factors and consequences of earnings management in the chemical products and automotive parts manufacturing industries using a meta-synthesis approach and expert opinions.

## 2. Methods and Materials

Given that identifying the factors and consequences of earnings management requires comprehensive and in-depth investigation, a qualitative research approach and meta-study method were employed. Meta-study is one of the methods used to review, synthesize, and analyze prior research. It involves a deep analysis of previous scholarly works conducted in a specific field. In this study, due to the necessity of qualitatively analyzing the findings of previous research, the meta-synthesis method was selected as one of the types of meta-study.

In the first stage of the research, the researcher sought to identify the factors and consequences influencing earnings management based on a review of previous studies and documented evidence. Since the existing literature does not clearly, precisely, and comprehensively explain these factors and consequences, the meta-synthesis method, along with expert judgment, was employed to examine prior findings and gain a deeper understanding of earnings management in order to answer the question: “*What are the influencing factors and consequences of earnings management?*” Meta-synthesis requires the researcher to conduct a careful and comprehensive review of the selected documents and to integrate the findings of prior studies.

At the beginning of the study, a large number of domestic and international articles were reviewed, and the factors and consequences of earnings management were identified. Then, interviews were conducted with experts to obtain their theoretical and scientific opinions on the selected variables. They were also asked to suggest any additional variables that, in their view, might influence or be influenced by earnings management for further investigation.

The statistical population in the first phase consisted of all articles, academic studies, theses, and sources addressing the topic of earnings management. In the next phase, the population included all academic experts, financial specialists, monetary and capital market analysts, and professionals in the chemical products and automotive parts manufacturing industries familiar with earnings management.

In this phase, the researcher systematically searched for published studies in various reputable domestic and international scientific journals, as well as in public databases and official organizational websites, with the aim of identifying reliable and relevant documents within an appropriate time frame. The time frame considered for English-language articles was 2008 to 2022, and for Persian-language articles, 2007 to 2021. International databases such as Elsevier and ScienceDirect, and domestic databases such as the Iranian Scientific Information Database (SID) and Civilica, were utilized.

The final selection of articles was based on two criteria: (1) the relevance of the article to the research objective (topics such as earnings management, real earnings management, accrual-based earnings management, earnings quality, income smoothing, discretionary accruals, financial reporting, financial transparency, and financial manipulation), and (2) a quality score of 5 or higher using the CASP (Critical Appraisal Skills Programme) checklist.

Subsequently, semi-structured interviews were conducted with 15 experts to assess whether the selected variables were theoretically and scientifically valid. The experts were also asked to introduce additional variables that, although not identified through the previous selection process, might influence or be influenced by earnings management.

The experts and specialists in the monetary and capital markets, familiar with earnings management and the chemical and automotive industries, had at least 10 years of executive experience. The sampling method used in this phase was snowball sampling, a non-probability technique in which an initial set of participants assists the researcher in

identifying additional respondents for the study. This method, also known as referral sampling, is typically applied when:

1. The target population is small and homogeneous.
2. Obtaining a complete list of population members is difficult.

In practice, experts in the field of earnings management were identified through research and profile analysis, and

then contacted for interviews. The interviews continued until no new themes emerged, indicating theoretical saturation. It should be noted that code repetition began from the twelfth interview; however, data collection continued until the fifteenth interview to ensure complete theoretical saturation. In total, fifteen interviews were conducted, and the characteristics of the interviewees are presented in the table below.

**Table 1**

*Characteristics of Interviewees*

No.	Job Title	Academic Degree	University Teaching Experience (years)	Experience in Stock Market and Commercial Activities (years)
1	Faculty Member, School of Management and Accounting	Ph.D. in Financial Management	26	15
2	Faculty Member, Department of Accounting	Ph.D. in Accounting	15	8
3	Head of Brokerage Firm	Ph.D. in Financial Management	25	20
4	Head of Brokerage Firm	M.A. in Financial Management	0	15
5	Head of Department, Investment Management	Ph.D. in Investment Management	15	10
6	Regional Stock Exchange Director	Ph.D. in Business Management	22	20
7	Deputy of Finance and Administration	Ph.D. in Financial Management	20	17
8	Deputy of Economic Inspection	Ph.D. in Financial Engineering	0	15
9	Head of Financial Affairs	Ph.D. in Industrial Management	15	5
10	Deputy of Economic Inspection	Ph.D. in Financial Management	5	20
11	Head of Provincial Export Bank	Ph.D. in Economics	35	5
12	Chief Financial Officer, National Oil Department	Ph.D. in Financial Engineering	5	10
13	CEO, Modiran Khodro Company	M.A. in Management	5	15
14	Deputy of Finance and Administration	Ph.D. in Finance	25	20
15	CEO, Petrochemical Company	M.A. in Management	0	20

In this research, data collection in the qualitative section was carried out through semi-structured interviews using a guided general approach. After confirming the participants' willingness via telephone follow-up and setting the time and location, the interviews were conducted. Before starting the interviews, the researcher conducted a thorough and comprehensive review of the literature on earnings management in Iran and worldwide. The results of this review led to the preparation of an initial list of variables. After approval by academic supervisors, each interviewee was asked to describe the overall status of earnings management and the presence of influencing and influenced variables in this domain.

### 3. Findings and Results

Initially, the factors and consequences of earnings management were extracted from available domestic and international articles, including variables and the relationships among them. Then, factors and consequences with a correlation strength above **60%** were selected. To increase accuracy in variable selection, expert opinions were also obtained, and finally, the most significant factors and consequences of earnings management were determined.

At this stage of the research, to identify the factors and consequences of earnings management, the meta-synthesis method following the seven-step model of Sandelowski and Barroso was applied. The seven-step meta-synthesis method

of Sandelowski and Barroso is one of the qualitative research synthesis approaches used to systematically integrate and interpret the findings of various qualitative studies. This method helps researchers extract key concepts and themes from qualitative studies through deep analysis and reconstruct them into new and more comprehensive knowledge.

In this stage, the researcher defined clear research questions to specify the objective of the meta-synthesis. In

line with these questions, data relevant to the study's objectives were extracted from selected articles, and the identified factors influencing and resulting from earnings management were combined to provide answers to the research questions. Table (2) presents the domestic studies related to the factors and consequences of earnings management used in this research.

**Table 2**

*Domestic Studies Related to the Factors and Consequences of Earnings Management*

No.	Title	Authors	Year	Independent Variable	Dependent Variable	Result
1	Developing a Comprehensive Earnings Management Model Based on Critical Thinking Using the Fuzzy ANP Method	Gholamreza Moradi Roodposhti et al.	2021	Corporate governance components, company characteristics, financial reporting methods, environmental factors, and capital market drivers as main dimensions	Earnings management	Significant effect (financial reporting methods and capital market drivers have the highest impact on earnings management)
2	Examining the Effects of Reduced Financial Reporting Complexity on Corporate Social Responsibility and Earnings Management	Gholamreza Biglarkhani & Ghodrattollah Talabnia	2021	Earnings management	Financial reporting complexity (consolidated financial statements, multiple product types, accruals above average level)	Significant and positive relationship
3	The Effect of Enterprise Risk Management on the Relationship Between External Financing and Earnings Management	Mohammad Hossein Pourahmadi & Gholamreza Farsad Amani	2021	External financing	Accrual-based earnings management	Significant and negative relationship
				External financing	Real earnings management	Significant and negative relationship
				Risk management	Earnings management	Significant and negative relationship
				Risk management	Real earnings management	Significant and negative relationship
4	The Moderating Role of the Audit Committee Establishment and Auditor Industry Expertise in the Relationship Between Free Cash Flow and Real Earnings Management	Maryam Nobakht & Younes Nobakht	2021	Free cash flow	Accrual-based earnings management	Significant and negative relationship
				Free cash flow	Real earnings management (abnormal production costs criterion)	Positive and significant relationship
				Free cash flow	Real earnings management (abnormal operating cash flows)	Positive and significant relationship
5	The Effect of Investment Fund Performance on Dynamic Earnings Management in Initial Public Offerings	Najafi Rad et al.	2021	Strong performance of investment funds during IPO stage	Real earnings management (abnormal discretionary expenses)	Not significant
				Weak performance of investment funds after IPO	Dynamic earnings management	Significant and negative relationship
6	The Impact of Organizational Culture on the Relationship Between Earnings	Riyahi-Nejad & Tavangar	2021	Power distance, uncertainty avoidance, in-group collectivism, gender	Dynamic earnings management Financial report readability and earnings management	Significant and positive relationship Positive and significant relationships for most cultural dimensions

	Management and Financial Report Readability			equality, future orientation, assertiveness, altruism		
7	The Relationship Between Bankruptcy, Stock Overvaluation, Earnings Management, and Conservatism	Lari Dasht Bayaz & Zeraati Noqabi	2021	Proxy for earnings management (discretionary accruals)	Bankruptcy	Negative and significant relationship
8	The Impact of Corporate Governance Mechanisms on the Relationship Between Related Party Transactions and Earnings Management	Mazraei Nodeh, Abdali, & Qazal Soufloo	2021	Related party transactions	Earnings management	Positive and significant relationship
9	The Relationship Between Audit Opinion, Stock Overvaluation, Earnings Management, and Conservatism	Zeraati Noqabi & Nakhai	2021	Proxy for earnings management (discretionary accruals)	Auditor's unqualified opinion	Not significant
10	Testing the Influence of Psychological Indices with a Cognitive Bias Approach on Types of Earnings Management	Mohseni Dehkelani et al.	2021	Direct channel of perceptual error	Accrual-based, real, efficient, and opportunistic earnings management	All relationships significant
11	Demographic Characteristics of Chief Financial Officers and Earnings Management Strategy	Zolaghi et al.	2021	Female CFOs, experience, higher education	Earnings management	Experience and education significant; gender not significant
12	The Relationship Between Institutional Ownership Stability and Earnings Management Considering Financial Leverage	Shamseddini & Nemati	2021	Institutional ownership stability	Earnings management	Mixed results (significant negative in some models)
13	The Effect of Financial Information Quality on the Relationship Between Intellectual Capital Components and Earnings Management	Khoshkar et al.	2021	Structural, human, and relational capital	Earnings management	Structural capital significant; others mixed
14	The Relationship Between Liquidity, Earnings Management, and Expected Stock Return	Qajarbeygi & Naqat	2021	Stock liquidity	Accrual-based earnings management and expected stock return	Significant relationship
15	The Role of Audit Quality in the Interaction Between Extensive Transactions and Earnings Management	Amin Eshaieri	2021	Earnings management	Performance from extensive transactions	Audit quality moderates the relationship
16	The Relationship Between IFRS Adoption, Investor Protection, and Earnings Management in Listed Companies on the Tehran Stock Exchange	Sahar Karami, Abbas Allahyari, & Alireza Rezaei	2021	IFRS adoption and investor protection	Earnings management	Significant and positive relationship
17	Rule of Law and Earnings Management	Faqih & Motamedi	2021	Rule of law	Earnings management (various accrual models: McNichols, Jones, Dechow, Kasznik, Kothari)	Positive and significant relationships in most models
18	The Role of Ownership Structure in the Relationship Between Related Party Transactions and Earnings Management	Ghorbani Esfahlan	2021	Related party transactions	Earnings management	Significant relationship
19	Audit Committee Characteristics and Earnings Management	Tajvardi & Ghaempanah	2021	Audit committee composition (financial expertise, independence, size, activity)	Accrual-based earnings management	Negative and significant relationship (except size)
20	The Moderating Role of Ownership Structure on the Relationship Between Financial Statement Comparability and Earnings Management	Khazaei et al.	2021	Accrual-based earnings management	Financial statement comparability	Significant and negative relationship

**Table 3**

*Foreign Studies Related to the Factors and Consequences of Earnings Management*

No.	Title	Authors	Year	Independent Variable	Dependent Variable	Result
1	Mandatory internal control and earnings management	Song et al.	2022	Internal control system	Accrual-based earnings management	Positive and significant relationship
				Internal control system	Real earnings management	Positive and significant relationship
2	Does the introduction of CSR criteria into CEO incentive pay reduce their earnings management? The case of companies listed in the SBF	Khenissi et al.	2022	Inclusion of CSR criteria in compensation contracts	Real earnings management	Negative and significant relationship
3	Labor Unions and Real Earnings Management	Chang et al.	2022	Labor unions	Real earnings management	Positive and significant relationship
4	Management control systems and real earnings management: Effects on firm performance	Beatriz García Osma et al.	2022	Management control systems	Real earnings management	Positive and significant relationship
				Real earnings management	Firm performance	Positive and significant relationship
5	Earnings Management, Board Composition and Earnings Persistence in Emerging Market	Nguyen Vinh Khuong et al.	2022	Accrual-based earnings management	Earnings persistence	Negative and significant relationship
				Real earnings management	Earnings persistence	Mixed and significant relationship
6	The Effect of Earnings Management on Firm Value with Corporate Governance as a Moderating Variable	Jevri Afrizal et al.	2021	Accrual-based earnings management	Firm value	Positive effect (corporate governance weakens the relationship between earnings management and firm value)
7	The COVID-19 and earnings management: China's evidence	He Xiao & Jianqun Xi	2021	COVID-19 outbreak	Accrual-based earnings management	Positive and significant relationship
				COVID-19 outbreak	Real earnings management	Negative and significant relationship
				COVID-19 outbreak	Real and accrual-based earnings management	Negative relationship
				COVID-19 outbreak	Real and accrual-based earnings management	Negative relationship
8	Earnings Management, Related Party Transactions and Corporate Performance: The Moderating Role of Internal Control	Zimon et al.	2021	Real earnings management	Firm financial performance (ROA)	Negative relationship
				Accrual-based earnings management	Firm financial performance (ROA)	Positive relationship
				Real earnings management	Firm performance (Tobin's Q)	Not significant
				Accrual-based earnings management	Firm performance (Tobin's Q)	Not significant
9	Culture, institutional quality and earnings management: an international evidence	Yamen et al.	2021	Culture	Accrual-based earnings management	Significant relationship
				Culture	Real earnings management	Not significant
10	Earnings management and market liquidity	Asli et al.	2021	Accrual-based earnings management	Market liquidity	Not significant



				Real earnings management based on operating cash flows	Market liquidity	Not significant
				Real earnings management based on abnormal discretionary expenses	Market liquidity	Positive and significant relationship
11	Political freedom and earnings management	Sha et al.	2021	Restrictive political freedom environment	Earnings management	Positive and significant relationship
12	Firm size, leverage, dividend policy, ownership structure, earning management: Evidence in Indonesia stock exchange	Rahmawati & Fajri	2021	Firm size	Earnings management	—
				Financial leverage	Earnings management	Significant
				Dividend policy	Earnings management	Significant
				Ownership structure (managerial ownership)	Earnings management	Significant
				Ownership structure (institutional ownership)	Earnings management	Not significant
13	Impact of Intellectual Capital on Earnings Management: Financial Statement Fraud in Indonesia	Jaya et al.	2021	Intellectual capital measured by the Value Added Intellectual Coefficient method (efficiency of employed capital, human capital efficiency, structural capital efficiency)	Earnings management	Significant
14	Moderating effect of profitability on intellectual capital and real earnings management	Rachmawati	2021	Intellectual capital	Real earnings management	Negative and significant relationship
				Intellectual capital	Real earnings management	Not significant
15	The Relation of Company Risk, Liquidity, Leverage, Capital Adequacy and Earning Management: Evidence from Indonesia Banking Companies	Wrightia Religiosa & Surjandari	2021	All variables including firm risk, liquidity, financial leverage	Earnings management	Positive and significant relationship
				Firm risk	Earnings management	Positive and significant relationship
				Liquidity	Earnings management	Negative and significant relationship
				Financial leverage	Earnings management	Not significant
				Capital adequacy	Earnings management	Negative and significant relationship
				Firm risk	Earnings management	Not significant
17	Economic policy uncertainty exposure and earnings management: evidence from China	Cui et al.	2021	Economic policy uncertainty (EPU)	Earnings management	Positive and significant relationship
18	The effect of corporate social responsibility practices on real earnings management: evidence from a European ESG data	Yamina Chouaibi & Ghazi Zouari	2021	Corporate social responsibility practices	Real earnings management	Negative and significant relationship
19	The role of intellectual capital as a mediation of relationship between audit committee and real earnings management	Istanti et al.	2021	Audit committee expertise	Human capital	Significant
				Number of audit committee meetings	Human capital	Not significant
				Audit committee expertise	Real earnings management	Not significant
				Number of audit committee meetings	Real earnings management	Not significant
				Human capital performance	Real earnings management	Not significant
				Audit committee expertise	Real earnings management	Significant

				Number of audit committee meetings	Real earnings management	Significant
20	Does Stock Liquidity Matter in the Effect of Earnings Management on Future Return?	Hung-Yi Huang & Kung-Cheng Ho	2020	Liquidity	Future stock return	Positive and significant relationship
				Earnings management	Future stock return	Positive and significant relationship

The criterion for determining the adequacy of the selected articles and the collected data, as well as for stopping the sampling process, depends on theoretical saturation. Furthermore, data analysis was conducted in three stages: open coding, axial coding, and selective coding. Since in this section, the content analysis method was used for analysis

and synthesis, and because content analysis is a qualitative approach used to interpret and analyze data, the systematic literature review method is also considered a qualitative research method. Finally, during the selective coding phase, the information was reorganized in a new structure, and the proposed model was developed.

**Table 4**

*Common Codes Derived from Meta-Synthesis and Expert Interviews (Data Integration)*

Selective Code	Axial Code	Concept (Open Codes)
Factors	Financial Leverage	Debt-to-equity ratio; Total debt-to-total assets ratio; Long-term debt-to-total debt ratio; Interest coverage ratio; Degree of financial leverage; Current debt-to-total debt ratio; Debt-to-book value of assets ratio; Debt-to-market value of firm ratio
	Stock Liquidity	Daily trading volume; Number of trades; Free float percentage; Bid-ask spread; Stock turnover rate; Price impact of trades; Volume of buy/sell orders; Transaction value-to-market value ratio; Level of participation of individual and institutional investors; Delay in trade execution; Effect of news and information on trading volume; Stock price volatility; Overall market liquidity
	Free Cash Flow	Investment in innovation; Allocation of free cash flow to product development; Investment in advanced technology to create competitive advantage; High product and service quality; Use of free cash flow for product quality improvement; Sustainable profitability; Reduction in capital expenditures; Dividend-paying ability; Reduction of debt and financial obligations; Increase in operating cash flow
	Information Asymmetry	Differences in information accessibility; Lack of transparency in financial reporting; Disparities in knowledge and expertise; Insider confidential information; Delay in information disclosure; Incomplete contract disclosure; Inconsistencies in data completion; Presence of misleading or incorrect information
	Profitability	Net profit margin; Operating profit margin; Return on assets (ROA); Return on equity (ROE); Earnings per share (EPS); Rate of return on investment (ROI); Gross profit; Profit growth rate; Retained earnings-to-total profit ratio; Profit-to-market value ratio
	Differentiation Strategy	Product or service innovation; High product/service quality; Unique design; Strong branding; Distinctive customer service; Differentiated marketing and communication; Unique customer experience; Customization capability; Focus on social or environmental values; Product exclusivity or limited access
	Cost Leadership Strategy	Reduction of production costs; Economies of scale; Operational efficiency; Procurement of raw materials at favorable prices; Use of technology to reduce costs; Simple, low-cost organizational structure; Efficient supply chain management; Focus on standardized and simple products; Strict control over overhead costs; Competitive pricing
	Long-Term Effective Tax Rate	Actual tax rate paid; Impact of government tax policies; Tax-to-pre-tax income ratio; Effect of tax incentives; Influence of capital structure; Effect of tax rate on company liquidity; Extent of tax accounting use; Effect of tax rate on firm value; Effect of tax rate on investment decisions; Tax impact on operating costs; Tax influence on firm competitiveness
	Institutional Ownership	Percentage of shares owned by institutional investors; Concentration of institutional ownership; Influence of institutional ownership on financial performance; Role of institutional investors in corporate governance; Degree of institutional investor influence on board decisions; Effect of institutional ownership on dividend policy; Role of institutional investors in mergers and acquisitions; Institutional support for social and environmental programs
	Executive Management Ownership	Percentage of shares owned by executive managers; Role of executives in strategic decision-making; Influence of executives on the board of directors; Effect of executive ownership on financial performance; Level of executive commitment to organizational goals; Influence of executive ownership on investment decisions; Impact on financial transparency and disclosure
Consequences	Board Size	Number of board members; Composition of members; Board members' expertise and experience; Board diversity; Influence of board size on organizational strategy; Effect of board size on financial performance; Impact of board size on organizational culture
	Cash Holding Level	Operating cash flow and operating cycle; Cash-to-total-assets ratio; Level of short-term liabilities; Dividend policy; Corporate investment level; Earnings quality; Impact of financial obligations on cash holdings; Effect of capital expenditures on cash retention; Market liquidity and economic conditions affecting cash holdings; Effect of taxes on cash liquidity
	Tax Avoidance	Use of debt financing to reduce tax payments; Utilization of tax exemptions; Delay in tax payments; Transfer pricing; Income shifting to lower-tax jurisdictions; Reported tax differences

Relevant articles on earnings management were extracted, classified, and evaluated from reputable domestic and international databases. Finally, the factors and

consequences shown in the above table were identified and selected.

**Table 5**

*Factors and Consequences of Earnings Management Derived from Meta-Synthesis and Expert Interviews (Data Integration)*

No.	Variable Description	Variable Type	Meta-Synthesis	Experts	Commonality
1	Financial leverage	Independent	✓	✓	✓
2	Stock liquidity	Independent	✓	–	–
3	Free cash flow	Independent	✓	–	–
4	Information asymmetry	Independent	✓	✓	✓
5	Profitability	Independent	✓	✓	✓
6	Institutional ownership	Independent	✓	–	–
7	Executive management ownership	Independent	✓	–	–
8	Board size	Independent	✓	–	–
9	Corporate social responsibility	Independent	✓	✓	✓
10	Differentiation strategy	Independent	✓	✓	✓
11	Cost leadership strategy	Independent	✓	✓	✓
12	Long-term effective tax rate	Independent	–	✓	–
13	Cash holding level	Dependent	✓	–	–
14	Tax avoidance	Dependent	✓	✓	✓

Since the selected data were extracted from reputable journals and databases, they possess the required level of

credibility. Furthermore, to calculate content validity, the Content Validity Ratio (CVR) method was employed.

**Table 6**

*Assessment of the Validity of Codes Obtained from Meta-Synthesis and Expert Interviews Using the CVR Coefficient Method*

No.	Variable	Type of Variable	Experts Who Considered the Variable Essential	Experts Who Considered It Useful but Non-Essential	Experts Who Considered It Non-Essential	CVR Value	Variable Validity
1	Financial leverage	Influential	13	2	0	0.73	Valid
2	Stock liquidity	Influential	12	2	1	0.60	Valid
3	Free cash flow	Influential	13	1	2	0.73	Valid
4	Information asymmetry	Influential	14	1	0	0.86	Valid
5	Profitability	Influential	13	2	0	0.73	Valid
6	Differentiation strategy	Influential	12	2	1	0.60	Valid
7	Cost leadership strategy	Influential	12	1	2	0.60	Valid
8	Long-term effective tax rate	Influential	14	1	0	0.86	Valid
9	Institutional ownership	Influential	12	0	3	0.60	Valid
10	Executive management ownership	Influential	13	1	1	0.73	Valid
11	Corporate social responsibility	Influential	13	1	1	0.73	Valid
12	Board size	Influential	12	2	1	0.60	Valid
13	Cash holding level	Dependent	14	1	0	0.86	Valid
14	Tax avoidance	Dependent	13	1	1	0.73	Valid
15	Real earnings management	Central	15	0	0	1.00	Valid
16	Accrual-based earnings management	Central	15	0	0	1.00	Valid

To ensure the reliability of the meta-synthesis method, the influential and dependent variables on earnings management that were selected through literature review and expert consultation were coded independently by two researchers. Then, by comparing the coding results and counting the

number of agreements, the Holsti coefficient was calculated to assess the level of agreement between the coders. This coefficient indicates analytical consistency and is used to evaluate the reliability of content analysis. The results of this evaluation are presented below.

**Table 7**

*Coder Agreement Table*

No.	Extracted Code (Concept)	Coder 1 (N1)	Coder 2 (N2)	Agreement (Yes = 1) (M)
1	Financial leverage	Financial leverage	Financial leverage	1
2	Stock liquidity	Stock liquidity	Stock liquidity	1
3	Free cash flow	Free cash flow	Free cash flow	1
4	Information asymmetry	Information asymmetry	Information asymmetry	1
5	Profitability	Profitability	Profitability	1
6	Corporate social responsibility	Corporate social responsibility	Corporate social responsibility	1
7	Differentiation strategy	Differentiation strategy	Differentiation strategy	1
8	Cost leadership strategy	Cost leadership strategy	Cost leadership strategy	1
9	Long-term effective tax rate	Long-term effective tax rate	Tax rate	0
10	Institutional ownership	Institutional ownership	Institutional ownership	1
11	Executive management ownership	Executive management ownership	Executive management ownership	1
12	Board size	Board size	Board gender	0
13	Cash holding level	Cash holding level	Cash holding level	1
14	Tax avoidance	Tax avoidance	Tax avoidance	1
Total Agreements (M)				12

The Holsti coefficient was calculated using the following formula:

$$PAO = 2M / (N1 + N2)$$

Where:

M = number of variables for which both coders agreed exactly

N1 = total number of codes registered by the first coder

N2 = total number of codes registered by the second coder

$$PAO = 2(12) / (14 + 14) = 0.857$$

To evaluate the reliability of the coding process for variables extracted during the meta-synthesis stage, the inter-coder agreement coefficient was computed using the Holsti formula. Two independent coders coded 14 key concepts, and the level of agreement between them was assessed.

Based on the obtained results, out of 14 codes, 12 codes showed complete agreement, and only 2 codes differed. Therefore, the final Holsti coefficient was 0.857, indicating high reliability and strong conceptual agreement between coders in the content analysis of academic sources. This level of agreement demonstrates the validity of the qualitative analysis and the dependability of the findings extracted in the first integrative stage (meta-synthesis).

According to the results shown in the table above, the selected data or variables (factors and consequences) in this stage of the research possess the required reliability.

#### 4. Discussion and Conclusion

The findings of the present study revealed a complex and interconnected set of factors and consequences influencing earnings management in the chemical products and automotive parts manufacturing industries. Based on the meta-synthesis of domestic and international research, combined with expert interviews, fourteen key factors and two major consequences were identified. The main factors influencing earnings management included financial leverage, stock liquidity, free cash flow, information asymmetry, profitability, institutional ownership, executive management ownership, board size, corporate social responsibility (CSR), differentiation strategy, cost leadership strategy, and long-term effective tax rate. The two major consequences identified were the level of cash holdings and tax avoidance. Furthermore, both real and accrual-based earnings management were found to play mediating roles between these determinants and their consequences. These results underscore that earnings

management is not a singular act but rather a behavioral and strategic pattern shaped by the interplay of organizational, market, and psychological elements (Abraham & Kumar, 2025; Bui, 2024).

One of the most significant findings of this study concerns the influence of financial leverage on earnings management. The results showed that firms with higher debt ratios are more likely to engage in both real and accrual-based earnings manipulation. This aligns with the view that leverage creates pressure to meet debt covenants and maintain lender confidence (Hung & Nguyen, 2025). When debt levels rise, managers often feel compelled to adjust earnings upward to present a more stable financial position, thereby reducing the perceived default risk. The findings are consistent with (Boachie & Mensah, 2022), who demonstrated that firms with weak governance structures and high leverage are more prone to opportunistic financial reporting. Moreover, (Khuong et al., 2022) argued that in emerging economies, leverage amplifies managerial incentives to manipulate earnings due to weak enforcement of financial covenants and limited transparency in capital markets. Therefore, the study confirms that financial leverage acts as both a motivator and constraint—motivating manipulation under financial pressure but also limiting discretion when external scrutiny is high.

Another key determinant found to affect earnings management was information asymmetry. Firms characterized by high levels of asymmetric information between management and investors were more likely to engage in income-smoothing practices to manage perceptions. This result is supported by the findings of (Hsin et al., 2024), who noted that information quality plays a moderating role in the relationship between hedging performance and earnings management. In low-transparency environments, managers exploit informational advantages to manipulate earnings, either to mask poor performance or to stabilize market expectations. Similarly, (Salehi et al., 2024) emphasized that managerial psychological traits, such as overconfidence, intensify the effects of information asymmetry, leading managers to underestimate the long-term consequences of manipulation. The present study reinforces these arguments, suggesting that asymmetric information is not merely a structural challenge but also a behavioral one—shaped by cognitive biases and managerial intent.

The findings also revealed that profitability significantly influences the likelihood and form of earnings management. Profitable firms often use accrual-based earnings

management to smooth income over time, whereas less profitable firms may rely on real activities manipulation such as overproduction or discretionary expense adjustments. These results are consistent with (Comporek, 2025), who demonstrated that the level of market competition and profitability jointly determine whether firms choose real or accrual-based manipulation. Similarly, (Biswas et al., 2023) found that managerial ability moderates the relationship between product market competition and real activity manipulation, implying that skilled managers employ nuanced strategies to maintain performance trends. Together, these findings indicate that profitability not only reflects financial outcomes but also shapes managerial incentives for discretionary reporting behavior.

The analysis further confirmed the moderating role of corporate governance and ownership structure in constraining or enabling earnings management. The presence of strong institutional ownership and independent boards was found to reduce manipulation, consistent with the findings of (Boachie & Mensah, 2022). However, when executive managers held substantial ownership stakes, they tended to use their discretion in ways that favored short-term results over long-term stability. This supports (Sharma et al., 2025), who found that executive pay and managerial power significantly affect the extent of earnings manipulation in Indian firms. Moreover, (Khuong et al., 2022) observed that state ownership reduces opportunistic manipulation but can still encourage income smoothing for political or reputational reasons. In line with these studies, the current research concludes that ownership concentration, managerial power, and governance quality collectively determine the ethical boundaries of earnings management practices.

Corporate social responsibility (CSR) and environmental initiatives were also identified as influential factors shaping real earnings management. Firms with active CSR engagements or environmental strategies—such as waste reduction and sustainability programs—displayed distinct patterns of earnings management. The findings align with (Lakhal et al., 2025), who showed that waste reduction efforts affect real earnings management by altering managerial priorities and financial flexibility. Similarly, (Zhang et al., 2024) found that environmental regulations in China influenced corporate earnings management strategies, pushing firms to adapt their reporting behavior to meet compliance while maintaining profitability. These results suggest that the intersection of environmental governance and financial reporting introduces new trade-offs, where

managers balance ethical signaling with performance expectations.

Strategic orientation was another critical determinant, particularly differentiation and cost leadership strategies. Firms pursuing a differentiation strategy, emphasizing innovation and quality, were less inclined to manipulate earnings aggressively, possibly due to their stronger brand reputation and long-term value orientation. In contrast, firms adopting a cost leadership approach were found to engage more frequently in earnings management, as they faced tighter margins and higher market pressure. These findings are consistent with (Abraham & Kumar, 2025), who noted that managerial decision-making under performance constraints leads to selective manipulation when strategic and operational risks converge. Similarly, (Bui, 2024) argued that the evolution of earnings management research increasingly recognizes strategic behavior as an intrinsic component of managerial discretion.

The study also revealed that the long-term effective tax rate and tax policies play substantial roles in shaping earnings management behavior. Firms often engage in tax avoidance or deferment strategies that coincide with reported earnings manipulation. The findings support the perspective of (Hsin et al., 2024), who highlighted the interconnectedness between financial reporting, information asymmetry, and fiscal planning. Moreover, (Jalali et al., 2024) observed that audit quality can mitigate the risk of manipulative tax-related reporting by increasing transparency and compliance. The current study found that firms strategically manage their taxable income and reported earnings simultaneously to achieve optimal fiscal outcomes, confirming the dual nature of earnings management as both an accounting and tax strategy.

Among the consequences, cash holding levels and tax avoidance emerged as the most prominent outcomes of earnings management. Companies that engaged in higher levels of manipulation were found to maintain larger cash reserves, possibly as a precautionary measure against financial uncertainty or regulatory penalties. This aligns with (Hung & Nguyen, 2025), who observed that manipulated earnings can distort cash flow patterns, creating inefficiencies in resource allocation. Additionally, the relationship between earnings management and tax avoidance was confirmed, echoing findings from (Zhang et al., 2024), who demonstrated that environmental and fiscal constraints jointly shape firms' tax strategies. The results underscore that earnings management not only affects financial reporting quality but also extends to broader

corporate financial behavior, influencing liquidity, investment, and compliance decisions.

The analysis of the qualitative data also provided insight into the behavioral aspects of earnings management. Experts emphasized that managers often perceive earnings management as a “necessary tool” for maintaining corporate stability rather than as unethical manipulation. This perception resonates with the behavioral perspective discussed by (Salehi et al., 2024) and (Sadeghian & Gerami, 2024), who noted that psychological traits and cognitive framing strongly influence ethical decision-making in accounting. The experts' views confirmed that personal ethics, cognitive biases, and situational pressures collectively shape how earnings management practices are justified and executed within organizations.

Collectively, these findings reinforce the growing consensus in international literature that earnings management is a multifactorial phenomenon encompassing financial, institutional, strategic, and behavioral dimensions. (Bui, 2024) and (Abraham & Kumar, 2025) argue that this integration of perspectives provides a more realistic and holistic understanding of how managers navigate complex economic and regulatory landscapes. The convergence of results across multiple studies—from emerging markets such as Vietnam (Hung & Nguyen, 2025) and India (Sharma et al., 2025), to regulated economies like China (Zhang et al., 2024)—suggests that while contextual factors differ, the underlying motivations for earnings management remain consistent across sectors and regions. Managers seek to balance financial expectations, regulatory compliance, and stakeholder perceptions, often engaging in strategic manipulation as a means of survival and adaptation.

Ultimately, the findings of this study provide empirical and theoretical support for the argument that earnings management cannot be fully understood through financial metrics alone. It must be analyzed as a dynamic behavioral process influenced by governance structures, psychological drivers, and environmental contexts (Bui, 2024; Lakhali et al., 2025; Salehi et al., 2024). The results not only extend the theoretical framework of earnings management but also highlight the need for integrated research approaches that combine quantitative rigor with qualitative insights.

Despite the robustness of the findings, the present study has several limitations. First, the qualitative meta-synthesis approach, while comprehensive, relies heavily on the selection and interpretation of existing research, which may introduce subjective bias in identifying key variables. Second, expert opinions, though valuable for contextual

insight, were limited to professionals from the chemical and automotive industries; thus, the findings may not generalize to other sectors with different financial structures or reporting standards. Third, cultural and institutional variations between countries could affect the applicability of the identified factors, especially given that most analyzed studies originated from emerging economies with evolving governance systems. Finally, the study did not quantitatively test the proposed relationships, leaving room for future empirical validation using large-scale datasets.

Future research should integrate both qualitative and quantitative methodologies to validate and extend the conceptual model developed in this study. Researchers could employ structural equation modeling (SEM) or multi-level analysis to empirically test the causal relationships between the identified factors and consequences of earnings management. Longitudinal studies across different industries and institutional environments would also enhance understanding of how economic cycles, regulation, and sustainability pressures influence managerial discretion over time. Additionally, future studies should explore the psychological and cultural determinants of earnings management in greater depth, particularly the role of national ethics, organizational culture, and leadership style in shaping reporting behavior. Expanding cross-country comparisons and incorporating machine learning techniques for detecting earnings manipulation could further strengthen predictive and diagnostic frameworks.

From a practical perspective, the findings offer actionable insights for regulators, auditors, and corporate executives. Policymakers should strengthen enforcement mechanisms to improve transparency and reduce opportunities for discretionary manipulation, particularly through enhanced audit quality and stricter corporate governance codes. Managers should cultivate an ethical reporting culture supported by psychological awareness training to mitigate biases that contribute to opportunistic behavior. Additionally, firms are encouraged to integrate sustainability and social responsibility into their performance management systems, ensuring that non-financial goals complement rather than conflict with financial integrity. Finally, investors and analysts should adopt multi-dimensional evaluation frameworks that account for both financial indicators and behavioral signals when assessing corporate performance and credibility.

### Authors' Contributions

Authors contributed equally to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethics Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were considered.

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