



FROM LIFE CYCLE TO AGENCY FRICTIONS: THE MEDIATING ROLE OF DISCLOSURE TONE

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Abstract

The underlying study demonstrates that qualitative disclosure serves as a powerful governance mechanism that reduces information asymmetry between principal-agent and among multiple types of principals themselves. This research aims to integrate multiple theoretical frameworks at the intersection of organizational life cycle, agency theory, and the information asymmetry stream. To analyse the disclosure tone for a sample of 650 firm-year observations, a self-constructed Python program was used. By employing SEM, the direct and indirect effects of OLC on two types of agency costs are observed. The study shows that life-cycle stage exerts a direct effect on both principal-agent and principal-principal agency costs even when disclosure characteristics are controlled for. Even though the tone has strong direct effects on dependent variables, the weak relationship between OLC stage and tone infers that the market punishes positive tone, perhaps because it is perceived as a sign of managerial over-optimism or impression-management efforts. The study may still be subject to omitted variable bias or the unexplored reverse causality. Future studies should seek to build more holistic and integrated theoretical models that include mediating mechanisms beyond tone.

Keywords: Organizational Life Cycle, Structural Equation Modelling, Textual Disclosure, Tone, Agency Cost, Signalling Theory

1. Introduction

1.1 Corporate Disclosure and Information Asymmetry

Corporate information is disclosed precisely as a sequential detail. This disclosure is a mechanism through which firms communicate with external stakeholders. Such a communication reduces information asymmetry and facilitates efficient capital allocation (Healy & Palepu, 2001). Under some circumstances, it is mandatory to express as per some regulatory bodies while in other situations, it is a mere exchange of facts at the option of organizations themselves. Such informative material may be financial or non-financial by nature. Nonfinancial disclosure is a sort of transparency reporting through which organizations officially reveal facts not related to finances rather environmental impact, community involvement activities and work-life balance (Medrado & Jackson, 2016). Whereas financial disclosure documents are meant to meet information needs of current and/or prospective investors and analysts who are more into knowing about firms' financials (Loughran & McDonald, 2011). Where early disclosure research focused predominantly on such quantitative financial metrics, modern studies have increasingly recognized the significance of qualitative characteristics embedded within narrative disclosures (Li, 2010). For instance, the rich qualitative information that shapes stakeholder perceptions and decisions beyond financial ratios alone is predominantly available in the Management Discussion & Analysis (MD&A) section of annual reports (MerkL Davies &



Brennan, 2007). Thus, researchers have started taking interest in textual characteristics of management discussion and analysis section of 10-K and 10-Q filings (Davis & Tama-Sweet, 2012; Li, 2010), Chairmen's statements (Smith & Taffler, 1992), earnings press releases (ArslanAyaydin et al., 2016; Huang et al., 2014), earning announcement conference calls (Davis et al., 2015) and annual reports (Schleicher & Walker, 2010). In the context of Pakistan, annual reports serve the almost the same purpose as by 10-K and 10-Q filings.

Both voluntary and mandatory, the two disclosures are said to be somewhat regulated by strict language standards. Nevertheless, previous research on the features of texts found that there were many inconsistencies across organizations (Bakari et al., 2019; Cazier & Pfeiffer, 2016). Such discrepancies may lead to the deterioration of corporate information environment as a result of information irregularities and agency issue between various stakeholders including shareholders, entrepreneurs and managers (Beyer et al., 2010).

1.2 Strategic Disclosure Quality and Agency Costs

Qualitative information is considered vulnerable as being the product of strategic choices made by organizations. These business strategies indicate how the organization competes in its own market, so this can certainly affect its business performance and may trigger managerial motivation to disclose information (Bentley-Goode et al., 2019). So, the vulnerability of qualitative characteristics of financial disclosure makes it more indispensable to explore as it may easily trigger agency cost. Beyer et al. (2010) found corporate information environment a result of information irregularities and agency issues among multiple stakeholders including shareholders, entrepreneurs and managers. This provides the reason to highlight the effects of such deterioration on corporate agency problems. The underline study examines a chain of effects leading from organizational fundamentals to disclosure quality, and ultimately to efficiency (agency costs).

1.3 Organizational Life Cycle and Disclosure Practices

In contrast to the predictability of disclosure quality, organizational environment is dynamic by nature. This environment evolves with the passage of time. In order to embrace this transformation, the life cycle theory is employed to categorize corporations into various stages. According to the theory, firms evolve through number of stages i-e introduction, growth, maturity, and decline. All phases have specific strategic priorities, resource structure and stakeholder association (Dickinson, 2011; Miller & Friesen, 1984). The phases thus design organizational strategy, which in turn, results in selecting which information is disclosed to investors and in what way. These stage-specific changes are few of the main determinants of disclosure. As an example, growth-stage companies could use more positive tones to invite investment, whereas decline-stage companies could add complexity to reports to hide bad performance (Habib & Hasan, 2019). Hence there lies a significant gap in literature for understanding how qualitative disclosure characteristics mediate the relationship between life cycle position and economic outcomes, particularly in emerging market contexts. This is because in developing economies institutional pressures are different from those in developed economies.

1.4 Emerging Market Context and Research Gap

Nevertheless, the established knowledge base has a geographical concentration in developed markets. Empirical evidence lacks for the developing economies like Pakistan (Ghazali, 2010). Pakistan's unique institutional environment with concentrated ownership, weaker investor protection, and different governance norms is expected to yield distinct disclosure dynamics that cannot be deduced from Western contexts (Javid & Iqbal, 2008). Fewer studies such as Shaheen et al. (2020) tested for qualitative characteristics of corporate governance for distinct organizational life cycle phases and unearthed significant results. Likewise, current study intends to discover how does the impact of disclosure tone on agency cost differ across life cycle phases?

1.5 Research Objectives

This determines the primary objective of this study which is to examine the mediating role of qualitative disclosure characteristic i-e tone in the relationship between organizational life cycle stage and firm level economic consequent i-e agency costs in Pakistani listed firms. Specific objectives include:

RO1. To classify Pakistani non-financial firms into distinct life cycle phases (emerging, mature and contracting) using preestablished framework.



RO2. To measure tone as a key qualitative characteristic of annual report disclosures.

RO3. To examine the direct effects of organizational life cycle stage on agency costs.

RO4. To investigate the mediating effects of disclosure tone in the relationship between life cycle stage and agency costs.

1.6 Significance of Disclosure Tone

The optimist/pessimist tone of disclosure in annual reports is a tool that organizations use not only to conceal but also to make essential performance-related information attractive. This highlights the significance of such communicative orientation. From the perspective of management, manipulating qualitative financial disclosure is more viable in contrast to the quantitative financial disclosure (Luo & Zhou, 2020). From the perspective of analysts, textual characteristics are of great concern as they may lead to reporting bias as well as information risk and affect investors' comprehension (Ertugrul et al., 2017). As this comprehension drives rationality and appropriateness of their decision; any such bias may affect cost of agency (Luo et al., 2018). Through a summative content analysis approach, the underlying study tests the variation in tone of annual reports along organizational life cycle stages and the subsequent effectiveness of company's internal processes.

1.7 Theoretical Contributions

This research contributes to multiple theoretical streams. It first extends organizational life cycle theory by revealing demonstration of stage dependent strategic preferences in disclosure practices like Bakarich et al. (2019). The study demonstrates that the information environment outcomes are partially contingent on life cycle stage. This therefore contributes to OLC (organizational life cycle) theory by moving beyond the description of disclosure characteristics to their intra-firm governance. Secondly, it is a significant empirical addition to the signalling theory since it is a study of how firms at varying stages of life cycle employ disclosure tone in communicating strategic information to stakeholders.

Traditionally the prime focus of agency theory is associated with quantitative mechanisms (e.g. CEO compensation, board monitoring and debt covenants). While the underlying study demonstrates that qualitative disclosure serves as a powerful governance mechanism that reduces information asymmetry between principal-agent and among multiple types of principals themselves. Most studies examine either Agent-Principal or Principal-Principal conflicts in isolation. The study yet goes beyond agency theory and examines the effect of disclosure characteristics that could alleviate or worsen agency costs throughout the life cycle of an organization in order to expand the work of Jensen and Meckling (1976). This implies that the agency costs do not only depend on the ownership structure but also on developmental phase. Hence the study bridges the gap between agency theory and linguistic/behavioural finance by showing that the narrative quality of annual reports is not merely cosmetic, but it also mitigates agency conflicts actively.

1.8 Methodological and Practical Contributions

The study offers a methodological approach (Structure Equation Modelling) to mediation analysis in disclosure situations. It also lays groundwork evidence to comparative emerging market studies. Findings of this study also have a potential to be utilized by regulators to come up with stage-specific disclosure frameworks. These phase-oriented reporting frameworks will enable the investors to have value-relevant information. This will increase the informational value of compulsory SEC filings that are more important when it comes to voluntary disclosure (Li et al., 2025). Meanwhile, the underlying research urges future scholars to come up with stage-specific dictionaries and tone standards instead of expecting the applicability of available measurement instruments to be universal. This will therefore enable them to apply life cycle theory as a forecasting tool instead of it being viewed as a simple descriptive model.

The upcoming sections of this paper narrate literature review, methodology, findings along discussion and conclusion.

2. Literature Review

The firm's life cycle has received significant attention across accounting, finance and corporate governance research (Habib & Hasan, 2019). Life cycle theory originates in organisational science, with conventional models proposing that firms progress statically from inception to fall, with strategies, operations,



and structures, changing accordingly (Gray & Ariss, 1985; Miller & Friesen, 1980; Miller & Friesen, 1984). Penrose (1959) offers a generic theory of firm growth, arguing that a growth of firms depends on its resources and valuable opportunities. Chandler (1962) further reveals organizational structure corresponds to growth plan designed to exploit external opportunities. The resource-based view states that the existence of valuable, unique, imitable and irreplaceable resources provides sustainable comparative advantage (Barney, 1991), which in turn determines organizational growth and evolution across various life cycle phases (Helfat & Peteraf, 2003; Wernerfelt, 1984). Helfat and Peteraf (2003) extend this debate by presenting a dynamic resource-based perspective that states firms gain competitive advantage bases resources over time that may shift from one phase to other, ultimately leading to distinct life cycle stages (Habib & Hasan, 2019). Recent life cycle studies actually substantiate this viewpoint, showing that transitions over the life cycle are driven by managerial efficiencies, flexibility and resource base (Habib & Hasan, 2019).

The key factor in the ways managers frame performance, give future prospects, and possibly distort investor perceptions is the tone. Several recent studies have examined diverse dimensions of the tone of public disclosure documents (Allee & DeAngelis, 2015; D'Augusta et al., 2023; Davis et al., 2015). The effect of textual tone is stronger among the firms with a lesser institutional ownership, weak financial transparency, and low competition in the market (Xue et al., 2024). The tone and agency costs relationship is found mediated by mean of earnings management. Abou-El-Sood and El-Sayed (2022) find that there is a positive correlation between abnormal tone of disclosure and earnings management. Their findings indicate that the earnings persistence is greater in cases of firms that have low abnormal disclosure tone. This provides evidence of tone manipulation creating real impact on earning quality and agency cost than mere talk. Likewise, Bakarich et al. (2019) test the hypothesis of the differences in the qualitative nature of annual reports in different stages of the corporate life cycle. Using a sample of 24,268 firm-year observations from 2000 to 2014, results indicate introduction and growth stage disclosures are more optimistic, mature stage disclosures are most optimistic and decline stage disclosures are most negative. This is consistent with the obfuscation hypothesis as managers rely on complex and pessimistic language to conceal the bad news or prevent inquiry.

Tone is the qualitative attribute of corporate disclosures that is well established and has solid theoretical foundation in the signalling, agency, and impression management theories. Signalling theory establishes a core foundation to comprehend the rationale behind managerial tone. According to Spence (1973), signalling theory is used when companies are trying to signal their competence and performance to their investors. A management tone may be a valid indicator of future earnings, especially where the future of a firm is unpredictable, accounting data is hard to comprehend or board oversight is high. With an optimistic tone, managers can reduce the information asymmetry and increase market efficiency. Agency theory compliments signalling by indicating that there might be principal-agent conflict of interests be. The disclosure tone behaviour can be explained as the way of minimizing information asymmetry and conflict of interest between the principals and the agents. But according to impressions management, managers can also be deliberate in their tone to give perceptions in favour of themselves. Abou-El-Sood and El-Sayed (2022) find the evidence demonstrating that discretionary tone can be strategically applied to get investors' attention. Their result contributes to the previous research regarding opportunistic approach of disclosure tone.

The agency theory (Jensen & Meckling, 1976) is an additional perspective of disclosure behaviour in the different life cycle stages. The separation of ownership and control creates information asymmetry between principals (shareholders) and agents (managers), leading to agency costs. Disclosure quality serves as a mechanism to reduce these costs by providing principals with information to monitor agent's behaviour. As firms transition through life cycle stages, the nature and severity of agency problems change, with corresponding implications for optimal disclosure strategies. Bulmash (1986) presents a model explaining the firm's life cycle via the agency approach, providing interesting implications for management compensation programs, growth-inducing policies, and aspects of mergers. The dynamic model provides a synthesis of different perspectives of the firm and its management. More recently, Krishnan et al. (2021) provides evidence that disclosure quality is significantly different across firm life cycle stages. Specifically, firms in the introduction, growth, and mature life cycle stages have higher disclosure quality than firms in other life cycle

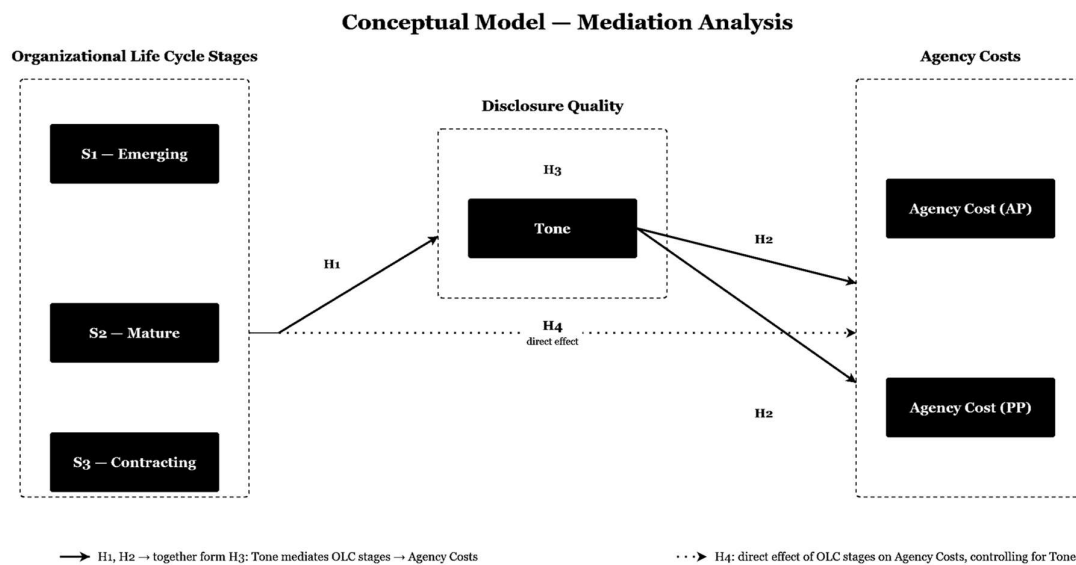


stages. The majority of the studies still approach tone as a fixed feature of a firm and not a strategic decision that changes with the progress of the organization (Samarakoon et al., 2025).

Most of the tone research is based in English speaking developed markets, most of which are in the United States. Despite the increasing evidence in the emerging markets, it is not extensive as should be. Likewise, limited studies examine whether the relationship between firm characteristics (e.g., life cycle stage) and agency cost is mediated by tone. Majority of studies investigate the direct impacts and not the mediating mechanism of tone conveying the impacts of life cycle stage to economic outcomes. The current research thus opts to fill some of these gaps by integrating life cycle theory with signalling as well as agency theory. This thus explores that how tone change across the life cycle stages in the context of Pakistan (an emerging market with concentrated ownership and unique institutional feature) and whether the differences in tone change mediate the OLC impacts on the agency costs or not.

Figure 1

Conceptual Model



Drawing on all three aforementioned theories and the empirical evidence reviewed above, the present study tests the following hypotheses.

H1: OLC stages significantly affect annual report tone.

H2: Tone is significantly associated with agency costs

H3: Tone mediates the relationships between OLC stages and the agency costs

H4: OLC stages have direct effects on the agency costs after controlling for tone.

3. Methodology

The current study calls for the measurement of textual quality i-e tone of annual reports and categorization of sample organization into distinct life cycle stages. It has utilized quantifiable data. The statistical estimation of relationships between data driven textual quality, life cycle stages and dual agency costs is hence guided by the quantitative research design under the umbrella of positivist research philosophy. The variables like the stage of the life cycle of an organization, disclosure characteristic (tone) and agency costs can be computed precisely using the publicly available data. Moreover, the research tests hypotheses that are developed based on the well-known theoretical models like agency theory and organizational life cycle theory. This goes in line with the positivist emphasis on theory verification and falsification as brought to light by (Popper, 2005). The study undergoes summative content analysis which entails methodical counting and comparison of keywords or content. This is normally achieved by frequency analysis, which is then followed by a comprehensive interpretation of the context in which it is alleged as explained by Hsieh



and Shannon (2005). This approach assumes a hybrid position that maintains the interpretative richness of qualitative research but applies the rigor of quantification.

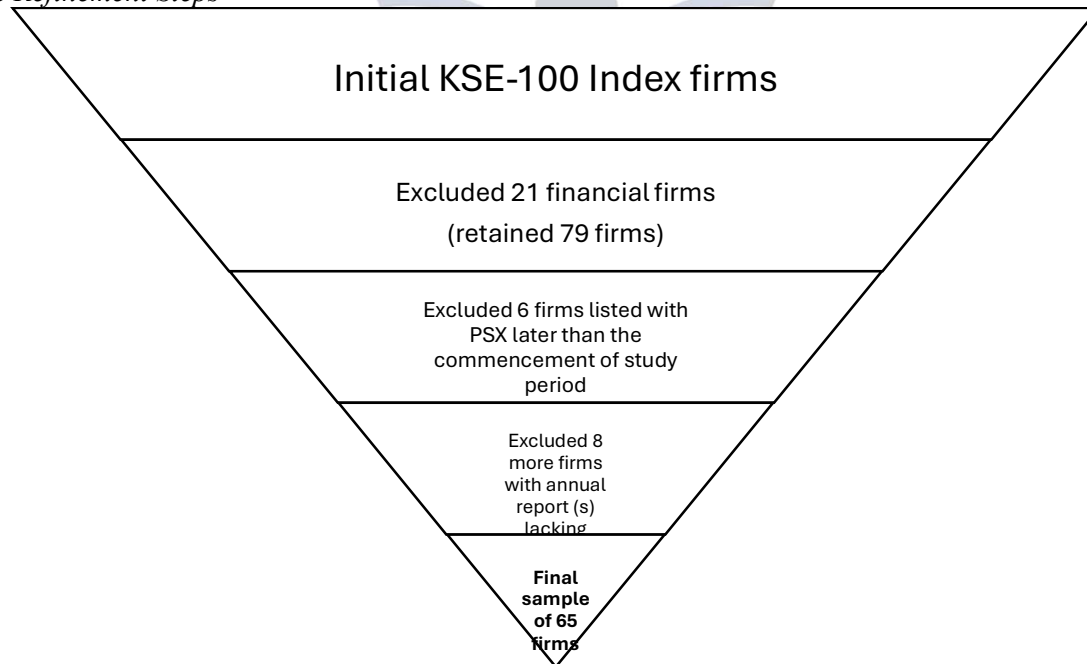
The research follows longitudinal panel design while studying the same companies for ten years (from 2015 to 2024). This longitudinal dimension is more like a theoretical requirement rather than a mere methodological choice. The Organizational Life Cycle theory demonstrates that firms go through different developmental stages over time. This creates the need to take repeated observations of the same entities over several time periods in order to capture firm evolution. The longitudinal panel design, when paired with suitable econometric techniques, enables chronological sequencing. It also allows for covariate control thereby strengthening causal inferences, even though true experimental manipulation is not practical in organizational research (Shadish et al., 2002).

The unit of analysis in this research is a firm-year observation. This is because the dependent variable such as dual agency costs are calculated on an annual basis. While, following Dickinson (2011) cash flow proxies; life cycle variables are also measured from annually published financial data in order to classify organizations. The measurement of control variables also requires annual data. But lastly, in order to calculate tone, a computer-assisted dictionary-based analysis is undertaken.

The population for this study comprises of all firms comprising the KSE-100 index of Pakistan Stock Exchange (PSX) at the beginning of study period. The cashflow patterns of such firms display all the combinations of cash flow signs with the typical characteristic of introduction, growth, mature, shake-out, and decline stages. Moreover, these companies are exposed to a higher scrutiny by the regulator, a more regular disclosure pattern, and a more developed auditing system than small companies. Then the methodological rigor and cross-sectional comparability are further achieved through the exclusion criteria (sample refinement). The final sample of 65 firms (650 firm-year observations) represents a wide range of sectors, such as textile, chemical, energy, pharmaceuticals, automobile, food products, and building materials. This kind of diversification affirms that the results are not obtained based on some industry specific characteristics.

Figure 2

Sample Refinement Steps



Therefore, for the final sample, annual reports were downloaded for years 2015 to 2024 from the official online database of the Pakistan Stock Exchange. Later, the annual report text is scrutinized by a Python program specifically designed to calculate tone (the mediating variable). The measurement technique includes



the removal of page numbers, headers, footers, tables, numbers, images, non-English text, share application forms, glossaries and table of contents; thus, isolating pure narrative sentiment. The resultant words were compared to the pre-validated positive and negative word list of (Loughran & McDonald, 2011) in order to calculate net positive measure of tone. In contrast, the financial data for measuring agency costs, OLC stages and control variable was acquired from Refinitiv Eikon.

OLC stages as being the primary independent variable captures the developmental path followed by a firm. The categorization into stages such as inception, growth, maturity, and decline is applied as per the methodology developed by Dickinson (2011). Such classification is based on a specific fundamental i.e. cashflows of a firm. For analytical purposes, the underlying study has crafted specific combinations of original OLC stage firms as S1, S2 and S3. S1 (Emerging) is a combination of firms in the phases of introduction and growth with high investment and unstable cash flows. S2 (Mature) is taken independently as it has relatively stable cash flows and profitability. And lastly the S3 (Contracting) firms are the ones from shakeout and decline phases, which are characterized by a falling trend in assets and a negative free cash flow. This grouping was necessary because the original sample of 65 firms had an unequal number of firms in each OLC stage.

Agency cost as being the dependent variable measures the loss of efficiency due to principal-agent and principal-principal conflicts (Ang et al., 2000; Jiang et al., 2010). This study thus covers two aspects of agency cost generation including principle-agent and principal-principal conflicts. Both measures have been extensively validated in the agency cost literature (Singh & Davidson Iii, 2003). For the first category of principle-agent conflict, the study has used operating expense ratio as a proxy for agency cost arising between shareholders and managers. It arises due to the separation of ownership and control. The operating expense ratio is calculated as the administrative and sales expenses taken together as the percentage of revenues. This is because the self-serving managers tend to invest inefficiently and have increased on-job perk consumption in order to satisfy their opportunism behaviour (Ang et al., 2000; Luo et al., 2018). And for the second category of principal-principal conflict, ratio of other receivables over total assets is used as a proxy for the agency cost arising between large shareholders and minority shareholders. Large shareholders through the occupation of listed firms tend to expropriate the interest of minority shareholders. This expropriation is reflected through receivables of related sales and other receivables of temporary borrowings in annual reports. For the reason of these being disguised, other receivables are the main source of expropriation of minority interest (Jiang et al., 2010).

In order to separate OLC stage and annual report characteristics effect (tone), this study employs a number of control variables. These are the variables presumed to affect firm level outcome i.e., agency costs. The controls include financial performance (ROA), capital structure (leverage), operational risk (earnings volatility), firm history (age), growth opportunities (market-to-book ratio), and economies of scale (firm size i.e., natural log of total assets). Controlling for these variables is guided by literature (Demsetz & Lehn, 1985; Fama & French, 1992; Jensen & Meckling, 1976).

The research technique used in this study is structural equation modelling (SEM) which is quite popular in the fields of business, psychology, and economics (Moyle et al., 2021). SEM precisely estimates path coefficients of individual variables and compares the relationship between latent, observed and error variables in a model. By employing SEM, one can calculate the direct, indirect, and total impacts of the exogenous variables on the endogenous variables. The agency costs (Agency cost AP, Agency cost PP), Organization lifecycle stages (S1, S2, S3) and disclosure quality (Tone) are regarded as manifest variables in structural equation modelling. OLC has an exogenous effect on both the disclosure quality and agency costs. While tone is presumed to be the mediating factor that has a direct impact on agency costs.

Below is the detailed equation set according to this study. This incorporates separate mediator equations and outcome equations, with only direct effects of S1 and S2 (life cycle dummies, with S3 as reference) and the mediator (tone).

$$Tone_c = \gamma_0 + \gamma_1 S_{1c} + \gamma_2 S_{2c} + \gamma_3 ROA_c + \gamma_4 EarnVol_c + \gamma_5 Leverage_c + \epsilon_c^T \text{ -- Equation 1}$$

The equation 1 predicts annual report tone (a measure of disclosure quality) for firm *i* in year *t*. The independent variables are life cycle stage dummies S1 and S2, with the S3 as the reference category. Control



variables include return on assets, earning volatility and leverage. The coefficient γ_1 captures the difference in tone between S1 firms and reference firms, while γ_2 captures the difference for S2 firms. The error term ϵ_t^T represents unobserved factors affecting tone.

$$AC_{ap_t} = \delta_0 + \delta_1 S1_t + \delta_2 S2_t + \delta_3 Tone_t + \delta_4 MB_t + \delta_5 ROA_t + \delta_6 Size_t + \delta_7 Earn -- \text{Equation 2}$$

The equation 2 predicts principal-agent agency costs with tone as the mediator. For instance, a negative δ_3 would mean that more positive tone is associated with lower agency costs.

In the case of agency cost PP, mediator equation is exactly the same as equation 1.

$$AC_{pp_t} = \delta_0 + \delta_1 S1_t + \delta_2 S2_t + \delta_3 Tone_t + \delta_4 MB_t + \delta_5 ROA_t + \delta_6 Size_t + \delta_7 Earn -- \text{Equation 3}$$

The equation 3 predicts principal-principal agency costs with tone as a mediator. For instance, a positive δ_3 would indicate that more positive tone is associated with higher principal-principal agency costs, as controlling shareholders use optimistic language to mask expropriation.

4. Results and Discussion

Table 1 looks at the impact of narrative tone on traditional agency costs in terms of asset productivity. The overall R² of the model is only 0.1090 with the equation of agency costs explaining only 6.86 percent of the variance. This is the least explanatory power of all the models estimated in this study, indicating that tone is not very relevant in explaining the efficiency of governance. The tone-agency costs ($= -10.242, p < 0.01$) relationship shows that the higher the positive narrative tone, the lower the agency costs. The theoretical attractiveness of this negative relationship is that those firms with more positive communication have more chances of their managers and shareholders be on the same page. In fact, positive tone provides platform for open communication required for monitoring. Nevertheless, the R² of the agency cost equation is very low. It requires caution. Even when the tone variable is statistically significant, it does not explain much of the difference in agency costs across firms.

Table 1

SEM Estimates of Organizational Life Cycle on Agency Cost (Agent/Principal) Using Tone (Disclosure Quality) as Mediation Variable

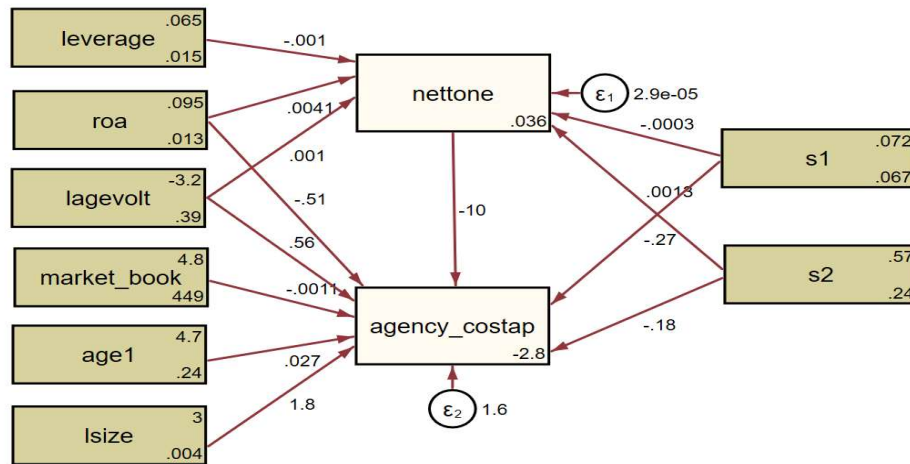
Exogenous Variable	Path	Endogenous Variable	The Estimate	Std Error	Significance
S2	→	Tone	0.001	0.000	***
S1	→	Tone	-0.000	0.000	**
Return on Assets	→	Tone	0.004	0.000	***
Earning Volatility	→	Tone	0.001	0.000	***
Leverage	→	Tone	-0.001	0.000	***
Tone	→	Agency cost ap	-10.242	1.571	***
S2	→	Agency cost ap	-0.177	0.019	***
S1	→	Agency cost ap	-0.274	0.035	***
Market Book	→	Agency cost ap	-0.001	0.000	***
Return on Assets	→	Agency cost ap	-0.510	0.084	***
Size	→	Agency cost ap	1.760	0.153	***
Earning Volatility	→	Agency cost ap	0.564	0.015	***
Age	→	Agency cost ap	0.027	0.017	
Chi2 (Model vs Saturated)		1043.53	Prob. Chi	0.000	
No. of Observations		650			
<i>Goodness of Fit</i>					
R ² Tone Equation	0.0442	R ² Agency cost ap Eq	0.0686	R ² Overall	0.1090

*Note: *** indicates significance is less than 0.01, "→" indicates path points between variables, Chi2 is chi2 statistics, under the premise of significance, the smaller the better*



Figure 3

Source: Author construction



The direct effects of OLC stages on the agency costs are significantly negative. It definitely aligns with other models of agency costs. In this study's analytical findings, S2 shows $\beta = -0.177$ ($p < 0.01$) while S1 shows $\beta = -0.274$ ($p < 0.01$). This indicates that the apparent governance benefits of the controlled tone are less for both S1 and S2 firms.

Table 2 examines tone mediation for principal-principal agency costs. The model reports an overall R^2 of 0.1271, while the agency cost equation explains 8.67% of the variance. The tone equation remains weak, indicating that life cycle stages explain little variation in narrative positivity. Unlike Table 1, where tone is negatively associated with principal-agent agency costs, Table 2 shows a positive tone-to-principal-principal agency cost path ($\beta = 0.374$, $p < 0.01$). This suggests that more positive narrative tone is linked with higher other receivables to total assets, a proxy for minority shareholder expropriation. One possible explanation is that controlling shareholders use optimistic language to divert attention from related-party loans or resource transfers. Thus, firms with higher principal-principal agency costs may employ positive tone defensively to reduce scrutiny from minority shareholders. Because these costs are ratio-based and close to zero, even small coefficients may carry economic importance.

Table 2

SEM Estimates of Organizational Life Cycle on Agency Cost (Principal/Principal) Using Tone (Disclosure Quality) as Mediation Variable

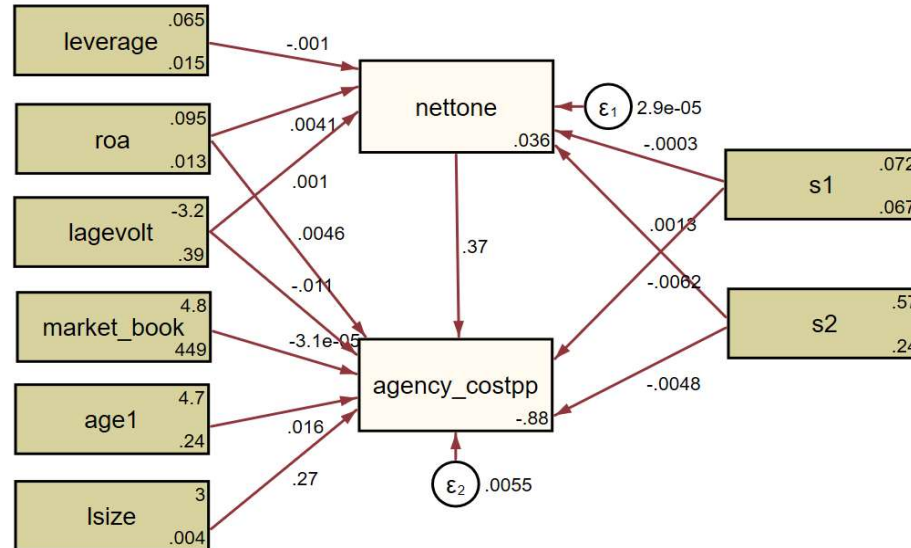
Exogenous Variable	Path	Endogenous Variable	The Estimate	Std Error	Significance
S2	→	Tone	0.001	0.000	***
S1	→	Tone	-0.000	0.000	**
Return on Assets	→	Tone	0.004	0.000	***
Earning Volatility	→	Tone	0.001	0.000	***
Leverage	→	Tone	-0.001	0.000	***
Tone	→	Agency cost pp	0.374	0.092	***
S2	→	Agency cost pp	-0.005	0.001	***
S1	→	Agency cost pp	-0.006	0.002	***
Market Book	→	Agency cost pp	-0.000	0.000	
Return on Assets	→	Agency cost pp	0.005	0.005	
Size	→	Agency cost pp	0.269	0.009	***
Earning Volatility	→	Agency cost pp	-0.011	0.001	***
Age	→	Agency cost pp	0.016	0.001	***
Chi2(Model vs Saturated)		1286.01	Prob. Chi	0.000	
No. of Observations		650			
Goodness of Fit					
R ² Tone Equation		0.0442	R ² Agency cost pp Eq	0.0867	R ² Overall 0.1271



Note. *** indicates significance is less than 0.01, → indicates path points between variables, Chi2 is chi2 statistics, under the premise of significance, the smaller the better

Figure 4

Source: Author Construction



For agency cost pp, S2 shows a negative direct effect $\beta = -0.005p < 0.01$) while S1 shows a stronger negative effect $\beta = -0.006p < 0.01$). This shows that the direct relationship between life cycle stage and principal-principal agency costs is rather strong. The existence of these direct effects in different specifications substantiates a critical observation: there is a lower number of conflicts between the controlling and minority shareholders in early-stage and growth-stage firms. The high level of ownership structure in both S1 and S2 firms will align the interest of various groups of shareholders and will minimize chances of expropriation irrespective of the ways in which firms provide information.

Table 3

Direct, Indirect and Total Effects from OLC Stages to Economic Consequences with Tone as Mediator

Exogenous Variable	Endogenous Variable	Direct Effects	Indirect Effects	Total Effects
Agency Cost ap				
S1	Tone	-0.0002* (-2.00)	-	-0.0002* (-2.00)
S2	Tone	0.0012*** (15.67)	-	0.0012*** (15.67)
Tone	Agency Cost ap	-10.24*** (-6.52)	-	-10.24*** (-6.52)
S1	Agency Cost ap	-0.274*** (-7.91)	0.00304 (1.91)	-0.271*** (-7.81)
S2	Agency Cost ap	-0.177*** (-9.26)	-0.0131*** (-6.02)	-0.190*** (-9.99)
Agency Cost pp				
S1	Tone	-0.0002* (-2.00)	-	-0.0002* (-2.00)
S2	Tone	0.0012*** (15.67)	-	0.0012*** (15.67)
Tone	Agency Cost pp	0.374*** 4.07	-	0.374*** 4.07
S1	Agency Cost pp	-0.0062** (-3.07)	-0.0001 (-1.80)	-0.0063** (-3.13)
S2	Agency Cost pp	-0.0047*** (-4.27)	0.0004*** (3.94)	-0.0042*** (-3.86)

As per the findings given in table 3; for principal-agent agency costs (operating expense ratio), the indirect impact through tone for S2 is negative and significant ($\beta = -0.0131$). It strengthens the negative direct impact ($\beta = -0.177$). In the case of S1, the indirect effect is positive and insignificant ($\beta = 0.00304$). The S2



result indicates that the governance benefits of growth-stage firms are partially transferred through tone. Whereas the S1 result fails to reach the traditional significance levels.

The indirect effect through tone for S2 firms in case of principal-principal agency costs is positive as well as significant ($\beta = 0.0004$). This counterbalances the negative direct effect ($\beta = -0.0047$) contributing to the total effect ($\beta = -0.0042$). It is a little less negative compared to the direct effect alone. In the case of S1, the negative indirect effect is not significant ($\beta = -0.0001$). The reason behind a positive indirect effect for S2 is the fact that S2 increases tone and tone increases principal-principal agency costs. The trend indicates that growth-stage companies experience an unintended consequence of positive narrative tone. It is associated with somewhat higher other receivables over total assets ratios. This may be due to the initial phases of ownership diffusion that generate tensions between controlling and minority shareholders.

The findings reveal that tone has a significant negative relationship with principal-agent agency costs while showing a positive relationship with principal-principal agency costs. The divergent signs are theoretically interesting. Positive tone is associated with lower traditional agency costs but higher conflicts among shareholder groups. The negative relationship between tone and principal-agent agency costs may reflect genuine alignment between managers and shareholders. Firms with lower agency costs may have more to be positive about, and their positive tone credibly signals effective governance. Alternatively, managers in well-governed firms may be more transparent, including both good and bad news, resulting in a more balanced tone that is perceived as credible. This interpretation aligns with the findings of Du et al. (2025).

The positive relationship between tone and principal-principal agency costs suggests a more problematic interpretation. Controlling shareholders may use overly positive language to mask extraction activities, creating a veneer of optimism while diverting resources. This interpretation aligns with impression management literature, which documents that managers use linguistic strategies to shape investor perceptions. Patelli and Pedrini (2014) found that firms with more powerful CEOs use more optimistic tone in their annual reports, consistent with impression management motives. In the context of principal-principal conflicts, controlling shareholders may similarly use positive tone to deflect attention from related-party transactions or other expropriation mechanisms.

The weak overall model fit for the tone-agency cost models suggests that these relationships, while statistically significant, explain relatively little variance in agency costs. This finding seems to be consistent with the work of Lo et al. (2017), who found that tone, readability and other linguistic features explain only a small portion of the variation in firm performance and governance outcomes after controlling for quantitative financial information. Such inconclusive evidence is consistent with recent research questioning the information content of linguistic tone. Loughran and McDonald (2016) argue that tone measures are often noisy and that their economic significance may be limited after controlling for quantitative information. The current study supports this cautionary perspective by showing that tone explains minimal variance in life cycle stage and that its mediation effects are inconsistent across outcomes.

5. Conclusion

The research aims to advance existing theoretical frameworks at the intersection of organizational life cycle, agency theory, and the information asymmetry stream. The study shows that life-cycle stage exerts a direct effect on both principal-agent and principal-principal agency costs even when disclosure characteristics are controlled for. S1 firms have the lowest agency costs of both types and are followed by S2 ones. This behaviour fits with characteristics, which are typical of initial stages and mature stage firms such as concentrated ownership structures and founder involvement in the firm. The more firms change along OLC the more the ownership becomes diffused. It gives rise to both types of agency conflicts. This finding links the stages of development to the effectiveness of governance and adds to life cycle theory by showing that the development of governance challenges firms must have to deal with. This reflects that when organizations mature, their specific governance needs change. The findings of the research have confirmed that these theories do not contradict each other but complement one another to provide an understanding of disclosure practices and their effects in the corporate context. The importance of the indirect effects indicates that



disclosure practices serve as a transmission mechanism between the organizational context and outcomes. This holistic approach contains one more complete picture than a single theory can provide.

The high agency costs associated with S1 firms put forward the notion that governance intervention is least warranted for introduction and mature stage firms. This is because concentrated ownership and engaged founder involvement tends to automatically align interests. As firms transition through the S2 stage and beyond, governance practitioners will need to implement increasingly sophisticated monitoring in order to address emerging agency problems. In contrast, the weak results for tone indicate that managers should not expect significant gains by trying to manipulate narrative positivity. Even though the tone has strong direct effects on dependent variables, the weak relationship between OLC stage and tone infers that there is no systematic impact of context on tone. The market punishes positive tone, perhaps because it is perceived as a sign of managerial over-optimism or impression-management efforts.

For firms facing the greatest concerns over manager-shareholder conflicts, improving the quality of disclosure serves as an effective mechanism to govern managers. Governance professionals should encourage more holistic, granular annual report disclosures and potentially contemplate disclosure committees or third-party verification of the quality of their disclosures. There should thus be separate mechanisms for Principal-Principal agency conflicts. Disclosure-based mechanisms do not suffice for firms where the main concern is conflicts between controlling and minority shareholders. The governance professionals should be thinking more structurally. They should be trying to enhance board independence or protections for minority shareholders while controlling related-party transactions or cumulative voting.

Although tone is not systematically related to life cycle stage, the key statistical relationship between tone and agency costs suggests boards should monitor annual report narrative tone. Instead of being overly optimistic, narrative disclosures must be balanced and credible, which is the responsibility of boards. Regulatory scrutiny should instead be on ensuring that narrative disclosures are accurate and complete rather than trying to regulate their linguistic tone.

Theoretically, the current study underlines mediation frameworks. Tone shows diverging relationships to each of the two types of agency cost. The research contributes to theoretical development by formally combining agency theory, life cycle theory and the information asymmetry framework into a single mediation model while showing why these theories can work together in explaining corporate disclosure behaviour and its consequences. The results extend agency theory, refine life cycle theory and develop the information asymmetry framework. These frameworks together are more complete than any one theory.

Agency costs in the form of perquisite consumption, empire building, shirking and other agency behaviours are exerted but unobserved in financial statement data used to measure either operating expense ratios or by using tunnelling proxy (other receivables to total assets ratio). This study does not claim to model all influences on agency costs, as the relatively low R-squared from the agency cost equations suggest there may be some unobserved factors yet to be considered that impact how firms incur agency costs. Likewise, if organizations are studied with respect to entire life cycle of each firm, that would provide more convincing evidence for causality and would accommodate the dynamic aspect of the adaptation of disclosures.

Despite of its limitations, this study offers some interesting avenues for future research. Future studies should seek to build more holistic and integrated theoretical models that include mediating mechanisms beyond tone, such as conscious reflection on forward-looking information, risk disclosures, graphical representations, or the use of interactive/visual data formats. Moreover, studies can be made about how different disclosure characteristics interact amongst themselves (e.g., per investor idiosyncrasies) or with other governance instruments (such as shareholders voting rights) in determining market and governance outcomes.

Author Contributions

All authors participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this article.



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Informed Consent

Not applicable. This study did not involve human participants requiring informed consent. The data used in this research were obtained from anonymized financial records with all personally identifiable information removed. No private or sensitive information was collected from individuals.

Data Availability

The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request. Due to privacy and confidentiality considerations, raw financial data may not be publicly distributed but can be accessed through the corresponding author with appropriate data use agreements and institutional approvals. The authors are committed to transparency and will provide detailed methodological information, model specifications, and analysis protocols upon request.

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