

FACTORS INFLUENCING AGENCY COSTS IN THE PUBLICLY LISTED IT FIRMS: EVIDENCE FROM BANGLADESH

Muntaqim Chowdhury¹, Imroz Mahmud², Md. Mehrabul Hoque³

¹University of Portsmouth, United Kingdom

^{2,3}University of Asia Pacific, Bangladesh

e-mail: muntaqim01@gmail.com¹, imroz@uap-bd.edu², mehrabul987@gmail.com³

ABSTRACT: The study aims to identify the factors that influence agency costs in publicly listed IT firms in Bangladesh. The research is based on secondary data obtained from nine IT firms listed on the Dhaka Stock Exchange (DSE) between 2018 and 2021. The effects of eight independent factors: board size, firm size, female directors, independent directors, managerial ownership, foreign ownership, institutional ownership, and leverage are examined in this study. For measuring the agency costs, the Asset Utilization Ratio (AUR) and Expense Ratio (EXR) have been employed as proxies. An ordinary least square (OLS) regression model has been used to test the hypothesized model. The study findings indicate that managerial ownership and institutional ownership are inversely and significantly associated with agency costs. In contrast, the board size, independent directors, and foreign ownership have a direct and significant relationship with agency costs. However, the relationship between agency costs and leverage or firm size cannot be determined. Besides, no statistically significant association between female directors and agency costs has been found. Being the first of its kind, the research findings can assist policymakers to identify the determinants of agency costs in IT firms and take the necessary steps to reduce them.

Keywords: Agency costs, Board attributes, Organizational characteristics, Ownership structure, Corporate governance, IT, Bangladesh.

INTRODUCTION

The company is the most advanced form of business organizations when it comes to raising capital, limiting liability, and transferring ownership interest. However, the biggest threat to a company is agency costs. Agency cost refers to the costs of conflicts of interest between managers (agents) and shareholders (owners). The seminal contribution of Jensen and Mackling (1976) on agency costs drew attention to the social and private costs of an agent's actions when the agent's and owner's interests are not properly aligned. Shareholders want the managers to run the business in a manner that maximizes the firm value or shareholder's wealth. In contrast, managers are often more concerned with their own interests, and

therefore, use corporate resources for their gain rather than maximizing shareholder's wealth (Ain *et al.*, 2021). These misaligned goals often result in significant additional expenses or loss of good investment opportunities. Managerial self-interest, perquisite consumption, work shirking, non-optimal financial decisions, and financial fraud are all examples of agency costs (Henry, 2007). The negative consequences of such costs might harm the company's financial performance as well as the wealth of its shareholders.

According to Florackis (2008), agency costs associated with the agency problem cannot be fully avoided when a principal hires an agent to operate organizations. Since agency costs cannot be avoided totally, they can at least be reduced. A strong corporate governance

framework can assist firms in reducing their agency costs. According to Aziz *et al.* (2015), corporate governance defines the procedures and structures that are employed for firm management, and the purpose of these practices is to maximize shareholders' wealth. In general, the mechanism through which firms are directed and governed is known as corporate governance. The governance of such firms is up to the boards of directors. The role of the shareholders in governance is to nominate the directors, as well as to ensure that a suitable governance framework is in place.

Although Bangladesh is a developing country with a rapidly expanding economy, its corporations lack adequate governance. Among a few crucial sectors in Bangladesh, the Information Technology (IT) sector has been booming in recent years as the government has placed greater emphasis on it. Over the course of several years, remarkable progress has been made in the IT sector toward the establishment of a 'Digital Bangladesh'. Compared to other business sectors, Bangladesh's IT industry is relatively new. Nevertheless, the IT sector's limitless possibilities have piqued the interest of all parties involved. Bangladesh is also witnessing the effects of the global hype in the IT industry. The local IT business has expanded at an enviable rate in recent years. During the 2018–2019 fiscal year, the ICT and outsourcing sectors generated \$1.7 billion in revenue while adding roughly 940,000 employments, in accordance with the vision for a "Digital Bangladesh". By 2025, it is anticipated that the domestic market will have increased by about five times, reaching \$4.6-4.8 billion (Kamal *et al.*, 2019). However, due to their poor corporate governance, the agency problem has become a significant hindrance for those enterprises. The poor institutional regulatory system, combined with the large family dominance, is Bangladesh's leading corporate governance problem (Rashid 2011).

Therefore, the primary aim of the research is to determine the factors that influence agency costs in Bangladesh's publicly listed IT firms. To achieve the primary objective, the following secondary objectives are set.

- To determine the correlation between board characteristics and agency costs.
- To find the relation between ownership structure and agency costs.
- To examine the connection between organizational characteristics and agency costs.

A limited number of studies have been undertaken on the relationship between board features, organizational characteristics, ownership structure, and agency costs in the context of Bangladesh. Although agency costs play an integral role in a company's performance, no comprehensive research has been carried out to determine the factors that impact agency costs in publicly traded IT firms of Bangladesh. As a result, there is a significant lacuna in the literature, which drove the authors to investigate the matter further.

The rest of the paper is structured as follows. The literature review and hypotheses development are presented in Section-2. The research approach is described in Section-3. Afterwards, the study findings are reported in Section-4. Section-5 concludes the study. Finally, Section-6 states the limitations of the study and scope for future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Board Size

Pearce and Zahra (1991) assert that larger boards are more dominant and functional than smaller boards. They stated that having a larger board might result in greater environmental alignment with businesses, better guidance and counseling for managerial decision-making, and an improvement in brand reputation. According to Uadiale (2010), a larger board of directors

might be useful in bringing together expertise and guidance towards strategic possibilities, and the stockholders might obtain additional company performance information. Nguyen *et al.* (2020) also observed that Vietnamese listed companies with larger boards of directors had lower agency costs, and this is because the management team prefers to control and influence the smaller board of directors. Larger boards are seen to be better at overseeing operations since they have more time and knowledge to dedicate to the organization.

In contrast to a smaller board, Beiner *et al.* (2006) and Eisenberg *et al.* (1998) argued that a larger board leads to less effective communication, collaboration, and planning. According to Fauzi and Locke (2012), relatively large firms have greater agency costs, however larger boards can lower agency costs by providing tighter oversight, improving board independence, and counteracting management entrenchment, resulting in enhanced firm performance. Furthermore, as per Vijayakumaran (2019), members of larger boards of directors often choose to follow one or two dominating members since they lack the time to properly analyze critical issues. In order to protect shareholders' interests and reduce agency costs in Chinese enterprises, smaller boards perform better than larger ones, which is in line with the findings of Čalopa *et al.* (2020). Finally, according to Nguyen *et al.* (2020), the large number of studies conducted in the United Kingdom and the United States indicated a negative relationship between board size and business performance, implying that larger boards entail higher agency costs. Hence, the following hypotheses might be put forth:

Hypothesis 1 (H1):

(A) *There is a positive relationship between board size and agency costs.*

(B) *There is a negative relationship between board size and agency costs.*

Independent Directors

Since boards dominated by external directors are more inclined to act successfully in shareholders' interests in order to safeguard their reputation in front of shareholders, boards with a substantial fraction of independent directors can decrease the exercise of management discretion (Henry, 2004; McKnight & Weir, 2009). Liu *et al.* (2015) claimed that independent boards can enhance corporate performance by reducing agency problems. The performance of firms in emerging and developing nations is positively correlated with independent directors, according to empirical studies due to the fact that internal governance mechanisms, like independent directors, seem to be more crucial in corporate governance in such nations due to poor external governance practices. This enhances effective supervision, which boosts business performance. The significant number of previous studies in Vietnam has also stated that board independence enhances business performance, and authors believe that with such competent independent directors, agency costs might be decreased (Vo and Nguyen, 2014).

The research conducted by Ibrahim & Samad (2011) also reveals that the asset utilization ratio is positively and significantly related to independent members on the board. Accordingly, the study finds that when the number of outside directors raises on the board, the asset utilization ratio likewise rises, hence reducing agency costs. On the other hand, Nguyen *et al.* (2020) discovered a positive link between board independence and agency costs. The favorable association between board independence and agency costs is also supported by Nguyen *et al.* (2017). Independent directors may fail to complete their supervisory responsibilities in governance due to inadequate experience, resulting in a worsening agency problem and inferior corporate performance. In light of this, the following hypothesis is developed:

Hypothesis 2 (H2): There is a negative relationship between the proportions of

independent directors in the board and agency costs.

Female Directors

According to Garanina and Kaikova (2016), having a higher percentage of female board members enhances asset utilization efficiency and, consequently, decreases agency costs to a limited amount. In order to increase the firm's worth; female directors might encourage innovative concepts (Boyle & Ji, 2013). The presence of female directors on corporate boards has been shown to minimize agency costs (Ain *et al.*, 2021). Additionally, in state-owned enterprises, where agency difficulties are more common, boards with a varied gender composition function better. Sobhan (2021) also found that ROA is favorably correlated with the number of female directors on the board. It suggests that the inclusion of female directors on the board might improve the performance of the company since they are dedicated workers and provide coordination to the board.

In contrast, Wellalage & Locke (2013) mentioned that gender diversity on boards of directors hinders company performance while also raising agency conflict. Women board directors, according to Pletzer *et al.* (2015), have a negative impact on corporate performance by increasing conflict, requiring more collaboration, and worsening communication quality. Therefore, we propose the following hypotheses:

Hypothesis 3 (H3): There is a negative relationship between the proportion of female directors on the board and agency costs.

Managerial Ownership

Even in the existence of certain other agency deterrent measures, management ownership considerably reduces principal-agent disputes in giant publicly listed companies. In their findings, Singh & Davidson (2003) support the concept that increased managerial ownership considerably and favorably enhances the efficiency of organizational asset utilization and

find some scant evidence that it serves as a strong disincentive to excessive discretionary spending. In their study on the effect of corporate governance and ownership structure on agency costs in the Tehran Stock Exchange's listed firms, Kamyabi *et al.* (2014) found a significant negative correlation between agency costs and managerial ownership.

The interests of the two groups can be linked when a considerable proportion of shares are owned by managers, as said by Vijayakumaran (2019). This is because higher shareholding by management teams implies that their wealth and benefits are more associated with the interests of the business owners, which reduces moral hazard. According to the study, increased management ownership signified effective corporate governance, leading to the elimination of agency costs. But in the US and UK economies, agency costs are typically adversely associated with management ownership percentage, as per Ang *et al.* (2000) and McKnight & Weir (2009). According to Nguyen *et al.* (2020) as well, there is a direct relationship between management ownership and agency costs in the Vietnamese context. The more stocks that managers own, the more will be their authority, and hence, a greater possibility for the managers to use that power to navigate the firm in a manner that ultimately benefits them. As a result, we propose the following hypotheses:

Hypothesis 4 (H4): There is a negative relationship between management ownership and agency costs.

Institutional Ownership

According to Parrino *et al.* (2003) and Larcker and Tayan (2011), institutional owners can oversee management at a low cost since they have considerable tools and experience than smaller shareholders. This helps to reduce agency issues related to over-investment risk. Furthermore, Henry (2004) revealed that the larger the institutional shareholdings, the lesser

the agency expenses. According to Gul *et al.* (2012), too, greater institutional shareholding lessens agency costs since institutional ownership has a substantial positive impact on the asset utilization ratio. Institutional investors oversee the firm's decision-making and productivity, which helps align the interests of shareholders and owners while lowering agency costs. Contrarily, in conjunction with Doukas *et al.* (2000) and Singh and Davidson (2003), the findings of Moez (2018) imply that increasing institutional ownership has no noticeable effect on the efficient allocation of assets, operating costs, or administrative expenditure. Thus, we propose the following hypotheses:

Hypothesis 5 (H5): There is a negative relationship between institutional ownership and agency costs.

Foreign Ownership

It is anticipated that increasing foreign ownership plays a better monitoring function that may stimulate business performance since firms are able to access superior resources like financing, technology and expertise from foreign investors (Huang & Shiu, 2009; Romalis, 2011). Nguyen (2012) and Boubakri *et al.* (2013) too found that, in order to reduce agency costs and promote corporate risk-taking that might improve business performance, foreign investors are motivated to keep an eye on management teams or other major shareholders. A rise in foreign ownership frequently results in advantages from the importation of cutting-edge management skills or technology, further enhancing corporate performance.

According to Chen *et al.* (2013), foreign ownership is better equipped to handle opportunistic managers, resolve agency problems in various international and cultural conditions, and ensure greater financial transparency. The increasing percentage of foreign ownership and agency cost of equity are found to be inversely related, according to Moez

(2018). This outcome is consistent with Choi and Choi (2013) where they assert that a larger percentage of foreign ownership results in lower agency costs. Foreign investors, according to Lu & Li (2019) and Vijayakumaran (2019), make a significant contribution to appropriate monitoring and actively managing discretions in developing nations because of their competencies and relevant business expertise indicating that foreign ownership and agency costs have a negative association. Therefore, we formulate the following hypothesis:

Hypothesis 6 (H6): There is a negative relationship between foreign ownership and agency costs.

Leverage

Higher leverage might lower agency costs because of the need to enhance cash inflows to pay interest (Jensen, 1986). Ang *et al.* (2000) also claimed that higher leverage could result in reduced agency expenses because of the debt holders' oversight functions. Mustapha & Ahmad (2011) asserted that when debt rises, supervision costs reduce as managers become more cautious as a result of banks' strict monitoring. Debt, according to Kayo and Kimura (2011) and Parrino *et al.* (2012), encourages managers to emphasize optimizing cash flow and prevents incompetent managers from squandering shareholder resources on unsuccessful initiatives. According to Vijayakumaran (2019), organizations with more debt funding demonstrated remarkable corporate governance by lowering agency costs.

However, greater debt is correlated with reduced agency costs in US enterprises, according to Garanina & Kaikova (2016), whereas higher debt enhances agency costs in Norwegian firms. Likewise, Chinelo & Iyiegbuniwe (2018) claimed that leverage in their findings indicates a favorable correlation with agency cost, while it is insignificant. This result is comparable to those of Zhang and Li

(2008). Singh & Davidson (2003) also argued that leverage is negatively associated with the asset turnover ratio. Therefore, we suggest the following hypotheses:

Hypothesis 7 (H7): There is a negative relationship between leverage and agency costs.

Firm Size

According to Singh and Davidson's findings in 2003, the asset turnover ratio and firm size have a positive and significant relationship which shows that larger companies utilize their assets more effectively. In addition, Garanina and Kaikova (2016) stated that bigger Russian enterprises have relatively low agency costs since their corporate governance structures are highly developed. Firm size was found to have a positive relationship with asset turnover but an inverse relationship with agency costs, according to Nguyen *et al.* (2020).

In contrast, bigger companies are more exposed to information asymmetries than smaller companies, as per Doukas *et al.* (2005), stating that bigger firms might expect greater agency costs since they are more diversified and have more extensive organizational structures. Larger companies, according to Henry (2007),

are more vulnerable to agency problems. So, we recommend the following hypotheses:

Hypothesis 8 (H8):

(A) There is a positive relationship between firm size and agency costs.

(B) There is a negative relationship between firm size and agency costs.

RESEARCH METHODOLOGY

Sampling and Data Collection

The effect of board attributes, organizational characteristics, and ownership structure on agency costs of publicly listed Bangladeshi IT firms is investigated in this study. This study has been conducted on a sample of nine IT companies listed on the Dhaka Stock Exchange (DSE) from 2018 to 2021. Currently, eleven IT firms are listed on DSE. However, due to a lack of information, two companies are excluded from the study. Given the lack of one annual report, the overall sample size is reduced to nine companies over a four-year period, yielding thirty-five firm years. All data used for this study are gathered from secondary sources such as annual reports. The list of companies included in the analysis is presented in Table 1.

Table 1. List of Sample Companies

Name of the Company		
1. aamra networks limited	4. Intech Limited	7. BDCOM Online Ltd
2. Genex Infosys Limited	5. ADN Telecom Limited	8. IT Consultants Limited
3. aamra technologies limited	6. Information Services Network Ltd	9. eGeneration Limited

Research Model

The agency costs were determined by Ang *et al.* (2000) using the ratio of operational expenses to annual sales and the ratio of annual sales to total assets. They claim that the first ratio reflects how well the firm's manager manages operating expenditures, which include agency costs. High agency costs are linked to a high ratio of operational expenditures to yearly sales. The asset utilization ratio, the second ratio, assesses

how appropriately the company's manager utilizes its assets. A higher asset utilization ratio suggests that assets are being used more efficiently, and hence this ratio is negatively associated to agency costs.

As agency costs are not directly measurable, two distinct approximation metrics are employed as dependent variables in this study; the Asset Utilization Ratio (AUR) and Expense Ratio (EXR) are the proxies for

estimating agency costs. The same approximation estimates as in Ibrahim & Samad (2011), Moez (2018), Baykara & Baykara (2021) and Sobhan & Chowdhury (2022) are employed in this study. This investigation has been carried out using a pooled cross-sectional approach. An ordinary least square (OLS) regression model has been used to test the proposed hypotheses. Based on research conducted by (Ibrahim & Samad 2011; Nguyen 2017; Tuan *et al.* 2019; Ain *et al.*, 2021) following are the research models used in this study:

$$AUR = \alpha + \beta_1 LNBSIZE + \beta_2 INDIREC + \beta_3 FMDIREC + \beta_4 MOWNSHIP + \beta_5$$

$$INOWNSHIP + \beta_6 FNOWNSHIP + \beta_7 LEVG + \beta_8 LNFSIZE + \varepsilon \quad (Equation-1)$$

$$EXR = \alpha + \beta_1 LNBSIZE + \beta_2 INDIREC + \beta_3 FMDIREC + \beta_4 MOWNSHIP + \beta_5 INOWNSHIP + \beta_6 FNOWNSHIP + \beta_7 LEVG + \beta_8 LNFSIZE + \varepsilon \quad (Equation-2)$$

The assumption is that a lower asset utilization ratio implies lower agency costs, while a larger expense ratio means higher agency costs. The details of all variables utilized in the equations are provided in Table 2.

Table 2. Description of Variables

Variable Name	Symbol	Explanation	Expected Correlation with Asset Utilization Ratio	Expected Correlation with Expense Ratio
Agency Cost (Dependent Variable)				
Asset Utilization Ratio	AUR	Ratio of Total Revenue to Total Assets		
Expense Ratio	EXR	Ratio of Total Operating Expense to Total Revenue		
Independent Variables				
Board Size	LNBSIZE	Natural Logarithm of Board Size	+/-	+/-
Independent Director	INDIREC	Percentage of Independent directors in board	+	-
Female Director	FMDIREC	Percentage of Female directors in board	+	-
Managerial Ownership	MOWNSHIP	Percentage of Managerial Ownership	+	-
Institutional Ownership	INOWNSHIP	Percentage of Institutional Ownership	+	-
Foreign Ownership	FNOWNSHIP	Percentage of Foreign Ownership	+	-
Leverage	LEVG	Ratio of Total Debt to Total Assets	+	-
Firm Size	LNFSIZE	Natural Logarithm of Firm Size	-	+

FINDINGS

Descriptive Statistics

Table 3. Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Min	Max
Asset Utilization Ratio	35	46	14	23	90
Expense Ratio	35	31	36	5	186
Board Size	35	6	2	4	9
Independent Directors (%)	35	46	10	33	75
Female Director (%)	35	23	13	0	40
Managerial Ownership (%)	35	34	16	4	74
Institutional Ownership (%)	35	24	10	6	47
Foreign Ownership (%)	35	2	5	0	16
Leverage	35	29	15	2	77
Firm Size	35	1676	909	116	2896

Table 3 presents the descriptive statistics for the research variables included in the analysis. In descriptive statistics, the average, standard deviation, lowest, and highest values of the research variables are provided. According to AUR, agency costs range from 23 to 90 percent, with a 46 percent average. Agency costs vary between 5-186 percent, with a mean of 31 percent, as per EXR.

According to the findings, the average board size is 6, with a range of 4 to 9 directors. Independent directors make up about 46 percent of the board on average, with the percentage

ranging from 33 to 75. On average, female directors make up 23% of all board members, ranging from 0% to 40%. The mean rate of managerial ownership is 34 percent with the range comprising 4 to 74%. The average share of institutional ownership is 24%, ranging from 6% to 47%. With a variation of 0 to 16 percent, the average proportion of foreign ownership is 2 percent and with a minimal of 2 percent and a peak of 77 percent, leverage has a mean of 29 percent. A firm's average size is BDT 1676 million, with values ranging from 116 million to 2896 million.

Table 4. Correlation Matrix

	aur	exr	lnsize	indirec	fmdirec	mownship	inownship	fnownship	levg	lnsize
aur	1									
exr	0.3583*	1								
lnsize	0.1309	0.2551	1							
indirec	-0.3301	0.4966*	0.1709	1						
fmdirec	-0.0305	-0.2822	-0.6024*	-0.3536*	1					
mownship	0.1907	-0.3615*	0.6532*	-0.3262	-0.4133*	1				
inownship	0.0592	-0.5866*	-0.2284	-0.3725*	0.6106*	0.1532	1			
fnownship	0.0104	-0.1579	-0.2631	-0.2594	0.3826*	0.0783	0.0637	1		

	aur	exr	lnbsize	indirec	fmdirec	mownship	inownship	fnownship	levg	lnfsize
levg	0.6539*	0.4045*	0.2643	0.0957	-0.1875	0.1126	0.0289	-0.2809	1	
lnfsize	-0.0661	-0.8639*	-0.0024	-0.5734*	0.2629	0.5852*	0.6936*	0.2624	-0.1165	1

*p < 0.05

Correlation Matrix

The correlation matrices of all variables are presented in Table 4 for a sample of 35 observations. Except for the number of independent directors, female directors, and company size, the matrix shows that the other five independent variables are positively associated with Asset Utilization Ratio (AUR). The correlation between leverage and AUR, on the other hand, is only statistically significant.

The Expense Ratio (EXR) is positively connected with board size, the number of independent directors, and leverage, whereas the other five variables are inversely related. The proportion of independent directors, proportion of management ownership, proportion of institutional ownership, leverage, and company size exhibit a statistically significant relationship with EXR within the variable

Table 5. Variance Inflation Factor (VIF)

Variable	Symbol	VIF	1/VIF
Managerial Ownership (%)	MOWNSHIP	8.79	0.113713
Female Director (%)	FMDIREC	6.22	0.160674
Institutional Ownership (%)	INOWNSHIP	5.34	0.187223
Firm Size (ln)	LNFSIZE	5.33	0.187631
Board Size (ln)	LNBSIZE	3.82	0.2618
Independent Directors (%)	INDIREC	2.25	0.443651
Foreign Ownership (%)	FNOWNSHIP	2.16	0.463712
Leverage	LEVG	1.23	0.814264
Mean VIF		4.39	

Variance Inflation Factor

The variance inflation factor (VIF) for the independent variables can be seen in Table 5. The VIF testing is used to assess whether the factors in a regression model are multicollinear. If the average VIF is greater than 10, there is a

risk of multicollinearity (Neter *et al.*, 1989). The linear regression may be incorrect if the average VIF is even less than 1 (Bowerman & O'Connell, 1990). This study's average VIF is 4.39, implying that there are no problems with multicollinearity or bias.

Table 6. Regression Output with OLS Model

Variable	Symbol	Model-1 (AUR)	Model-2 (EXR)
Board Size (ln)	LNBSIZE	-0.044	0.617*
(p value)		(0.593)	(0.001)
Independent Directors (%)	INDIREC	-0.812*	-0.361
(p value)		(0.000)	(0.204)
Female Director (%)	FMDIREC	-0.205	-0.287
(p value)		(0.388)	(0.242)

Variable	Symbol	Model-1 (AUR)	Model-2 (EXR)
Managerial Ownership (%)	MOWNSHIP	0.267*	-0.624*
(p value)		(0.090)	(0.089)
Institutional Ownership (%)	INOWNSHIP	0.589*	0.628
(p value)		(0.090)	(0.149)
Foreign Ownership (%)	FNOWNSHIP	0.691	2.086*
(p value)		(0.173)	(0.000)
Leverage	LEVG	0.584*	0.668*
(p value)		(0.000)	(0.004)
Firm Size (ln)	LNFSIZE	-0.128*	-0.362*
(p value)		(0.002)	(0.000)
R Squared		0.736	0.730
Observations		35	35

* Denotes a 10% level of significance

Regression Analysis

The results of the regression analysis are shown in Table 6. The Asset Utilization Ratio (AUR) and Expense Ratio (EXR) are employed as proxies for agency costs. A positive relation with AUR suggests that there are fewer agency disputes and vice versa, whereas a positive relation with EXR denotes that there are more agency disputes and vice versa. With both models, the findings reveal that there is no statistically significant correlation between female directors and agency costs.

In the study, it is identified that board size has a negative and insignificant association with AUR in Model 1 and a positive and statistically significant association with EXR in Model 2. As a result, Hypothesis 1 (A) can be supported. This result is consistent with the conclusions reached by Eisenberg *et al.* (1998), Beiner *et al.* (2004), Nguyen *et al.* (2020) and Čalopa *et al.* (2020). It argues that greater agency expenses are associated with larger boards due to ineffective planning, collaboration, communication, and productivity. In Model-1, there is a negative and significant association between independent directors and AUR, while in Model-2 there is a negative and insignificant relationship with EXR. Hence, while Hypothesis

2 cannot be accepted for Model 1, it can be accepted for Model 2 indicating that a higher proportion of independent directors on the board are not capable to reduce agency costs in listed IT companies of Bangladesh.

In both models, the study demonstrated a substantial association between management ownership and AUR and EXR, with a positive relationship to AUR and a negative relationship to EXR, supporting Hypothesis 4. The research of Ang *et al.* (2000), Singh & Davidson (2003), McKnight & Weir (2009), Kamyabi *et al.* (2014), Chinelo & Iyiegbuniwe (2018), and Vijayakumaran (2019) is in agreement with it. Their research indicates that management ownership improves the effectiveness of organizational asset usage and corporate governance. Additionally, larger ownership in the business closely correlates with shareholder interests, which substantially lowers agency expenses.

The results demonstrate a substantial association between institutional ownership and AUR and an insignificant relationship with EXR. Both AUR and EXR are positively correlated with it. The result is congruent with those made by Parrino *et al.* (2003), Henry (2004), Larcker and Tayan (2011), and Gul *et al.* (2012), all of

which found that institutional ownership minimizes agency costs. According to their research, institutional owners can supervise management at a reasonable cost since they have more resources and expertise than smaller shareholders. The decision-making and productivity of management are effectively monitored by institutional investors, which enables them to align the interests of shareholders and owners and decrease agency costs. Considering this, Hypothesis 5 can be accepted for Model 1.

Additionally, the research reveals that there is a positive and significant association between EXR and foreign ownership, but not between foreign ownership and AUR. Therefore, model-2 cannot accept Hypothesis-6 as true. This finding conflicts with those made by Chen *et al.* (2013), Choi and Choi (2013), Moez (2018), Lu & Li (2019), and Vijayakumaran (2019), who concluded that foreign investors significantly contribute to enhanced monitoring and actively managing discretions because of their competencies and pertinent business expertise, that boost business performance. Foreign ownership is furthermore better suited to deal with opportunistic management, solve agency issues, and guarantee better financial transparency.

It is evident that leverage significantly and positively affects both AUR and EXR when compared to other variables. Therefore, Hypothesis 7 is acceptable for Model 1 but not for Model 2. The nature of this relationship cannot be accurately determined. It is aligned with certain previous research and suggests that agency costs decrease as a company's leverage increases (Mustapha & Ahmad 2011; Kayo and Kimura 2011; Parrino *et al.* 2012 and Vijayakumaran 2019). The management feels compelled to increase their cash flows to pay off the interest as debt increases, they become more circumspect due to intense monitoring, and they establish excellent corporate governance, which leads to lower agency costs.

According to the findings, there is a negative and significant correlation between firm size and both AUR and EXR. In light of this, Hypothesis 8 (A) is valid for model 1 while Hypothesis 8 (B) is valid for model 2, for which the exact nature of this connection cannot be detected accurately. This result is in accordance with the findings of research by Doukas *et al.* (2005) and Henry (2007), which also revealed that larger organizations may anticipate higher agency expenses because they are more diverse, have more sophisticated organizational structures, and are more sensitive to agency issues. On the other hand, research by Singh and Davidson (2003), Garanina and Kaikova (2016), and Nguyen *et al.* (2020) shown that larger organizations use their assets more efficiently and have more advanced governance mechanisms, which lowers the cost of agency.

CONCLUSION

The study primarily aimed to identify the variables influencing agency cost in the publicly listed IT firms of Bangladesh. For this purpose, a panel data set comprising 35 firm-year observations of 9 IT companies listed on DSE has been utilized. Both Asset Utilization Ratio (AUR) and Expense Ratio (EXR) are used as proxies for measuring the agency costs. The effects of eight independent variables: board size, firm size, female directors, independent directors, managerial ownership, foreign ownership, institutional ownership, and leverage; are considered while assessing the agency costs.

This research investigates the significance of each variable that either directly or inversely affects the agency costs. Due to a significant direct association between board size and EXR, the findings suggest that larger boards are associated with higher agency costs. A similar relation has been found between the proportion of independent directors and agency costs, implying that the greater the number of independent directors on a firm's board, the

greater its agency costs. Meanwhile, an inverse relationship has been found with managerial ownership, meaning that the higher the proportion of managerial ownership a firm has, the lower would be its agency costs. This may be due to management's greater focus on increasing organizational performance when their financial goals are aligned with those of other stockholders. Additionally, institutional ownership has an inverse relationship with agency costs, suggesting that the greater the number of institutional owners in a firm, the fewer agency costs it will incur since institutional owners can more effectively oversee management given their capabilities and experience.

The study also discovered that foreign ownership raises agency costs in the IT firms of Bangladesh since it has a significant positive association with EXR. In most of the previous studies, however, foreign ownership had a negative association with agency costs, as all foreign owners with their expertise appeared to effectively monitor a firm. The relationship with the last two variables, leverage and firm size, cannot be precisely examined because they demonstrate contrasting results for the two models: for one, they indicate a rise in agency costs, while for the other, they show a decline. On the other hand, no statistically significant relation has been found between female directors and agency costs.

LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

This study is subject to a few limitations. The sample size comprises only 35 firm-years, which may not be adequate to generalize the relationship among the study variables. Results from a larger data set would portray a clearer picture of the determinants of agency costs. Besides, the regression model only considered a few chosen variables. Other independent variables like government ownership, audit committees, regularity of board meetings, etc.,

could be included to get a broader context. Since agency costs is a latent variable, it is estimated using only two metrics, namely Asset Utilization Ratio (AUR) and Expense Ratio (EXR). Future studies may include other metrics such as operating ratio and Tobin's Q ratio. Furthermore, this study focused solely on the IT firms listed on the primary bourse of Bangladesh. Future studies can include IT firms from other countries and perform a cross-country analysis. Lastly, researchers can also concentrate on the factors that affect the agency costs of debt in IT firms.

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