Driving forces behind Audit Report Lag:
A comparison between Auditor Independence and Knowledge Spillovers

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ABSTRACT

This study is to examine the forces behind Audit Report Lag (ARL) with employing agency theory. Generally Non- Audit Services (NASs) are recognized as those services, which impair the auditor independence. In addition, NAS is the matter of knowledge Spillover (KS) but it affects the audit risk positively. The present study aims to explore the causes for ARL. This research utilized secondary data in investigation. The results are confined to Karachi Stock Exchange (KSE) listed companies for year 2013. Structural Equation Modeling (SEM) technique has been applied through SmartPLS 3.2.3. This study contributes in the existing knowledge by offering the new horizon to bridge the gap between public perception from auditor and the practical application of audit. The empirical results demonstrated that there is no correlation between ARL and NASs. This research highlights important insights regarding NASs and auditor independency that invites upcoming researches to reinforce the concepts discussed in this study in Pakistan.

Keywords: Audit Report Lag, Non-Audit Services, Enterprise Resources Planning, Audit Risk.

INTRODUCTION

Growth of risk management theories introduced new paradigm in the field of audit. Explosion of Enron, WorldCom, Cendant and some other big financial scandals are become the causes for public consciousness in audit report lag. Development of information technology has enhanced the accuracy and standardization of accounting information system. Enterprise Resource Planning (ERP) system is the essential mover for timely, accurate and comprehensive financial and non-financial reporting. An ERP system integrates suite of accounting software for streamlining business information. Financial statements provide qualitative characteristics to present timely report. At present, it has become vital as stakeholders' demand. Consequently, unexpected delay in audit report shows management inefficiency and associated with lower quality information and misreporting (Naimi, 2010). Financial information condenses its usefulness if it is not timely reported. Capital market efficiency can be attained by reducing the time lag of publishing of audited annual reports.

International Standards on Auditing (ISA 300) requires that the knowledge of business enable the auditor to perform an audit of financial statements. Such knowledge helps the auditor to calculate Audit Risk (AR) that enables the auditor to determine the nature, timing and extend of audit procedures. The auditor should be in fact and in appearance be independent means that have not any sort of financial interest and unbiased regarding internal business matters. Institute of Chartered Accountants of Pakistan permits the auditor to provide some NASs like attestation, certification of special purposes, opinion on accounting standards, help in merger and acquisition and information on risk management reviews etc. Provision of NASs doesn't change the quality of audit and auditor opinion, the test are carried out over a number of years and find same result that non audit services will not impair the auditor independence in-fact its matter of KS (Craswell, 1999).

Although an absolute assurance is not given by the auditors' opinion because the future viability of the firm is not possible even in high quality audit work. In general, the masses accept an audit to give hundred percent guarantees as the accuracy of financial statements and discovering of all irregularities and frauds. One of the major challenges for the audit profession that hope from independent audit goes much beyond its present scope and objectives (Gupta, 1987). Moreover the study between non audit fee and KS concentrated on developing countries. In developing countries like Pakistan, lack of corporate governance culture may lead non-audit services as means to damage the independency of auditor. In fact due to low corporate governance culture it needs more business knowledge which can be achieved only by providing other special services to same firm.

Thus, the objective of this study is mainly identifying the forces behind the lag of audit report and also empirically proves that NASs are not linked with ARL. The remaining part of this paper is structured as follows. First, it discuss on literature review and theory. Second, it explains the theoretical frame work and hypothesis development of the study. It further provides the empirical results and conclusion. Finally, this study provides suggestion for future research.

LITERATURE REVIEW

Contemporary issue ARL and NASs is exploring in both developed and emerging economies and proves that KS help the auditor to reduce the AR. Importance of this issue for Pakistan can be understood by the geographical and historical setting of this study in which included emerging economies (Siddiqui, 2009). As noted prior studies had shown mixed results regarding NASs to the client; independence issues and KS whereas the research on KS is still need to be explored. Constructive relationship with audit fee and remuneration against non-audit services found in 16 out of 19 studies (Hay, 2006).

Firm values impact by timely financial reporting and audit committee and its independence with financial expertise are linked with shorter audit report lag (Sultana, 2015). One of the key components for high quality audit reports is based on the expertise of the audit committee but found no relation with timeliness reporting and audit committee financial expertise (Salleh, 2015). Practically there are a number of factors that are responsible for delay in audit report. These components can be separated in two broader module issues related to audit and specific towards nature of company (Owusu-Ansah, 2000). Whereas company size, age, industry type and financial condition means profitability are considered as company nature indicators and issues related to audit factors can be measured by the size of audit firm and audit complexity (Owusu-Ansah, 2000).

Auditor independence is impaired by NASs remuneration but in response the association between return and non-discretionary net profits is enhanced (Campa & Donnelly, 2015) . Audit reporting quality devastate where the auditor are ready to buy future NASs (Causholli, 2015). Joint audit provide well equipped understanding about the knowledge of the firm and causes to improve the reporting quality (Deng, 2014). New auditor faces problem to understand the business environment which become the reason of longer in ARL (Dao & Pham, 2014). From last decade the factor of ARL have improved due to modification in regulatory and economic policies (Alali & Elder, 2014). Due to mixed result it is difficult to understand whether the provision of NASs is harmful, beneficial or having no effect on auditor independency.

Agency theory means that agent (auditor) should work in the best interest of his principal (Shareholders). In the absence of agency relationship; the financial statements users don't have confidence in audit report. Furthermore agency issues arises where the auditor has known much about firms rather than the principal (Adams, 1994). So the auditor has responsibility for timely financial reporting. Audit committee perform vital role to produce quality and timely reporting. Therefore, knowledge about the firms through NASs gain competitive advantages especially in producing prompt quality financial reporting. It is difficult to draw a line between auditor independency and the KS.

Audit Committee and its relation to audit report are not much complex. Audit committee and its members guarantee the reporting quality and its timely presentation in order to reduce the risk of misrepresentation reporting for stakeholders (Dahya, 2002). The core responsibility of the audit committee is to ensure the sound internal control system and coordinate with external auditors. Number of studies has been done to explore the impact of audit committee and ARL and found negative relation with ARL (Afify, 2009; Carslaw & Kaplan, 1991; Hassan & Sarens, 2016; Sultana, 2015). Chair independency of audit committee and proportion of independent director has viewed as main players for timely financial reporting. Therefore, the following hypotheses are formulated:

H₁: *There is a significant relationship between Audit Committee Attributes and ARL*

Auditor charged high audit fees where, control risk is high. Earning and audit fee has significantly associated with each other. So it is assumed that higher audit fee lead to delay in reporting due to organization large infrastructure. High audit fee forces the auditor for longer audit lag by reducing their liability (Griffin, 2008). A NAS fee is directly correlated with the size and volume of audit fee that is charged on the basis of audit work. Big 4 audit firm seems to deliver timely and quality audit report due to having high degree of specialization of its auditors and strong extensive experience. As Campa (2013) found no considerable relationship between big 4 audit firm and ARL. The above discussion leads to formulate hypotheses:

H₂: *There is a significant relationship between External Auditor Attributes and ARL*

Losses have a longer audit lag documented by (Courtis, 1976). Due to losses the business risk increased so it is required to get audit evidence through applying extensive substantive procedures or blend of other check in depth measures. Whereas the auditor expresses qualified opinion in case of loss this opinion forces the auditor to get opinion shopping (opinion of another auditor) which causes for longer audit lag. Extraordinary item also may causes for ARL. For reducing the business risk auditor needed to done more work where the companies going into losses and having extraordinary items which may causes for delay in audit report (Bamber *et al.*, 1993). For issuing the qualified report auditor required in detail test which become the reason of lag in reporting. The more the return of the company would need to require more test to check the accuracy of return and higher the time required to finalize the result of that company. So the relationship would be checked between profitability (ROA and EPS) and delay in report. One of the causes of delay in reporting would be the size of the company. The manufacturing large firms have more assets and their value so these need more time to conduct their audit. So, it is hypothesis that:

H₃: *There is a significant relationship between Firm's Attributes and ARL*

In earlier studies the many researchers argued that the non-audit service fee and auditor independency has a significant relation and also become the causes of shorter audit lag

(Craswell, 1999). Existing literature in Pakistan has not yet been examined that KS would actually be achieved when auditor provide NASs to the same client.

Provision of NAS to client is created adverse economic consequences among investors and other stakeholders. Auditor independence is comprised as the NAS fee increased. After the financial scandals the role of external auditor becomes more vulnerable. High level of NAS fee shown the auditor economic dependency on client and may reduce the quality of statutory audit (Schmidt, 2012). Qualities of audit, market competitiveness enhance the issue of NAS. No doubt there is an inverse relationship found between provision of NAS and auditor independence. Still literature investigating this issue to draw a line between the necessities of NAS is matter of knowledge spillover or auditor indecency (Campa & Donnelly, 2015). On the basis of above discussion we formulate the hypotheses as:

H₁: *There is a significant relationship between Audit Committee Attributes and Non Audit Services*

H₂: *There is a significant relationship between External Audit Attributes and Non Audit Services*

H₃: *There is a significant relationship between Firm's Attributes and Non Audit Services*

RESEARCH METHODOLOGY

The objective of this study is to explore the forces behind the audit report lag. This concept is empirically tested by using the secondary data of the listed companies in Pakistan. There were three stock exchanges working in Pakistan and Karachi Stock Exchange (KSE) is the largest having 944 listed firms with 73 sectors in year 2013. The sample of this study is consists of 381 Pakistani listed companies and it has been selected through purposiveness sampling approach by using following two criteria's: The companies eliminated from the sample whose annual reports are not available publically because we extract the required variables data manually from the financial reports. The companies also removed from the sample that provides ambiguous detail of dependent and independent variables.

Mainly, the study data has been analyzed through SmartPLS 3.2.3 and SPSS 21. SPSS 21 is utilized for descriptive statistics and correlation whereas SEM has been applied through SmartPLS 3.2.3, which is considered as a growing statistical tool in social science studies (Hair, 2010) . SmartPLS 3.2.3 have more powerful and handy tools as compare to other SEM software such as PLS-Graph, LISERL, Statistica because it provides us reliable results in small data sets and don't need data normality. Therefore this research looks at the two core issues that are inter correlated with each other (e.g. determinants of ARL and provision of NAS). Based on the above discussion, we test these two following models.

Model: 1

ARL=β0+β1AC_SIZE+β2AC_CHAIR+β3AC_IND_P+β4LAUDF+β5P_NAUF+β6BIG_4+β7S_COMPANY+β8P_L+β9ROA+β10EPS+ε

Model: 2

P_NAUF=β0+β1AC_SIZE+β2AC_CHAIR+β3AC_IND_P+β4LAUDF+β5BIG_4+B6S_COMPANY+ β7P_L+ β8ROA+β9EPS+**ε**

Where:

ARL; Difference between the financial year end date and the date of audit report. AC_SIZE Total Number of members' directors in audit committee. AC_CHAIR   1 if the audit committee chair by independent director otherwise 0. AC_IND_P Proportion of independent director in audit committee. LAUF Natural logarithm of audit fee charged during financial year. P_NAUF Non-Audit services fee divided by total audit fee charged by the auditor. BIG41 if the auditor belongs to Big4 otherwise 0. S_ Company Natural logarithm of total assets of the company. P_L 1 if net loss after tax shown in audited report otherwise 0. ROA Net profit after tax divided by total assets. EPS Net profit after tax divided by total number of shares outstanding. **ε** Random error term.

RESULTS AND DISCUSSIONS

Descriptive statistics is used to describe the basic characteristics of the data. One of the main purposes of descriptive statistics is to check that in a meaningful form. It also describes that the data in succinct ways and typically it is different form the inferential statistics. Descriptive statistics test is also helpful to know the basic quantitative features of the data as well. . Moreover, the study also developed and tested the hypotheses. Under hypothetical testing, the researchers investigate that whether the relationships among the variables are conjectured or not, in order to answer the research objectives (Zikmund, 2013).

Table 1

Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. D
ARL	27.00	192.00	82.80	23.49
AC_SIZE	0.00	7.00	3.45	0.83
AC_CHAIR	0.00	1.00	0.98	0.13
AC_IND_P	0.00	100.00	22.07	25.37
LAUF	4.58	8.03	6.11	0.50
P_NAUF	0.00	94.01	37.44	20.39
BIG_4	0.00	1.00	0.53	0.50
ROA	-120.71	111.34	6.18	15.26
EPS	-40.00	929.11	19.15	70.75
P_L	0.00	1.00	0.22	0.42
S_Company	6.79	12.23	9.63	0.86

Notes: ARL, audit report lag; AC_SIZE, audit committee size; AC_CHAIR, audit committee chair independency; AC_IND_P, audit committee independent directors percentages; LAUF, log of audit fees; P_NAUF, percentage of non-audit fee; BIG_4, type of audit company; ROA, return on assets; EPS, earning per shares; P_L, Profit and loss and S_Company, size of company.

As shown in **Table 1** we considered total 11 variables in this study. The minimum audit report time is 27 days and maximum is 192 days. On average KSE listed firms are not habitual to delay in reporting the average means of ARL is 83 which is more significant as compare to Malaysian stock exchange (Naimi *et al.*, 2010). Audit Committee size is maximum consist of seven members and having average of 3.45 which is consider good as compare to other emerging markets. Independent directors in audit committee are shown that on average 23% directors in audit committee are found independent. The mean average of Big 4 audit firm is 0.50 percent which means that half of the KSE listed firms conducted their audit from Big 4 firm in year 2013. As previous studies suggested that to use natural logarithm to remove the issue of Collinearity (Cantoni, 2011) . Whereas

27% is non-audit services fees on average with respect of total audit fee charged. Mean average of natural logarithm of audit fee is 5.87. Loss means average is 42 percent of the total sample selection going in to loss. Whereas the average mean of ROA and EPS is 6.18 and 19.15 percent respectively. Correlation analysis investigates the relationship between two or more quantitative variables. The result of correlations analysis is typically falls between -1 and +1. In PLS-SEM correlation analysis is also necessary to discriminate the construct either it is formative or reflective.

Table 2

Pearson Correlations

	ARL	SIZE	CHAIR	IND_D_AUD	NAUF	LAUF	BIG_4	ROA	EPS	P_L	COMPANY
ARL	1										
SIZE		1									
CHAIR		.12*	1								
IND_D_AUD		.04	.119*	1							
NAUF		.20*	-.04	.056	1						
LAUF		.22*	-.07	.09	.60**	1					
BIG_4		.21**	-.08	.125*	.42**	.472**	1				
ROA		.09	-.01	.025	.00	.03	.21**	1			
EPS		-.01	.028	-.094	.01	.05	.11*	.10*	1		
P_L		-.10*	.073	-.019	.10*	-.05	.18**	.54**	.05	1	
S_CO		.24*	-.07	.11*	.37**	.82**	.43**	.03	.08	-.11*	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2 report Pearson correlation between all the variable taken in this study. Independency of audit committee chair is positively correlated with size of the audit commit. Non audit services are also shown positive correlation with the size of the company. Type of auditors is positively correlated with independent directors in audit committee, percentage of non-audit services and total audit fee charged by the auditor to the client. Loss of the company is negatively correlated with audit committee size, type of auditors and return on assets and positively correlated with total audit fee. Finally, the size of the company found positively correlated with all the variables of the study except independency of audit committee and profitability that is ROA and EPS. The maximum correlation between S_COMPANY and LAUF is 0.821 which is less than 0.9 which shown that there is no multicollinearity problem among the independent variables of this study (Alin, 2010).

After applying the statistical test to explore the answer of this study, some of fundamental analyses are carried out to know about the descriptive statistics and multicollinearity among variables of the study. Therefore, to analyze the multivariate model, structural equation modeling approach (SEM) has been employed through Partial Least Square (PLS), a variance based statistical technique. According to Chin (2010), PLS-SEM results can be conveyed in two major steps, discussing the requirements of structural and measurement models separately.

Table 3

Measurement Models of the Study

Constructs	Indicators	VIF	Model 1			Model 2		
			Weights	t-Values	P Value	Weight	t-Values	P Value
Audit Committee Attributes	AC_CHAIR	1.0	-0.40	1.8*	0.0	0.21	1.59	0.1
	AC_IND_P	1.0	0.23	1.7*	0.0	0.21	1.13	0.2
	AC_SIZE	1.0	0.93	5***	0.0	0.19	4.98***	0.0
Firms' Attributes	EPS	1.0	0.13	1.9*	0.0	0.08	0.677	0.4
	P_L	1.4	-0.38	2***	0.0	0.12	3.97***	0.0
	ROA	1.4	0.37	2**	0.0	0.13	2.02*	0.0
	S_COMPANY	1.0	0.66	7***	0.0	0.04	21.1***	0.0
External Audit Attributes	BIG_4	1.3	0.50	3***	0.0	0.07	3.926***	0.0
	LAUDF	1.7	0.576	3***	0.0	0.05	15.27***	0.0
	P_NAUF	1.6	0.11	0.7	0.4			

* p value is significant at 10%, ** p value is significant at 5%, *** p value is significant at 1%.

All the construct of this study is measured as formative construct. Mostly it is assumed that the formative construct are error free and don't have need to check the internal consistency. The internal consistency, indicators reliability and discriminant validity of formative construct are meaningless that is why the formative measure is not examined on the basis of Average variance analysis and Cross loading. First, in PLS_SEM results measurement model is assess on the basis of collinearity issues through VIF the threshold of VIF is ≤ 5 (Hair, 2010). **Table 3** is shown the VIF value of each indicator of all formative constructs. VIF values of all the indicators of both the models of the study are 1.016 to 1.735 which is shown that there is no critical level of collinearity in this model of the study. After analyzing the collinearity issues next step is to analyze the significance of outer weights and interpret the formative indicators absolute and relative contribution on the basis of their t-value significance level (Hair Jr *et al.*, 2013). All the indicators of audit committee attributes are found significant in first model whereas in second model AC_SIZE is significant in audit committee attributes. As for as concern with firms' attributes all indicators have significant t-values in first model and in second model only EPS is not shown any significant relationship. In third construct external audit attributes only P_NAUF is not significant t-values whereas in second model both of the indicators of construct are shown highly significant t-values. In formative construct, indicators should not be removed simply on the basis of weight and their t-values. Content validity and relevancy of the indicators in model is also a matter (Hair, Hult & Ringle 2013).
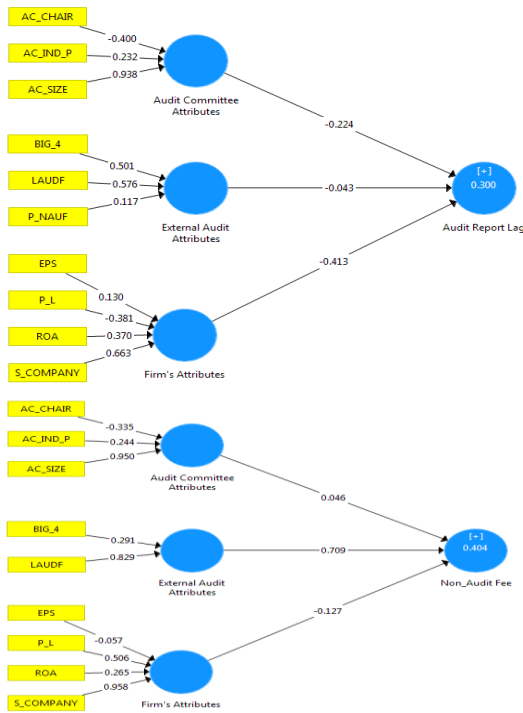
Figure 1: PLS-SEM Results of the 1st Model

To test the structural model we calculate path coefficients (β) which are interpret as standardized beta weights, R-Squares (R^2) which shows the explanatory power of the model and Q^2 which is the predictive power of the model. The figure 1 and 2 are shown the R^2 value and path coefficients of both the model of the study. There is no minimum or maximum rule of thumb that may consider as goodness of fit for the explanatory power, anyhow higher value indicates the higher explanatory power and higher predictive accuracy. In this study the R^2 value 0.300 and 0.404 in model 1 and 2 respectively. Whereas for managerial decision making R^2 value 20% or above should be considered good for managerial decision making (Bontis & Serenko, 2009). In addition to the R^2 predictive relevance is also used to assess the additional fitness of the model (Geisser, 1974). It is suggested that the Q^2 value should to greater than zero to establish meaningful predictive relevance. Blindfolding procedure of SmartPLS is used to calculate the Q^2 value. This study shows the Q^2 value 0.257 and 0.386, that is greater than zero and model encompasses the meaningful predictive relevance. The threshold for the Q2 value is 0.02, 0.15 and 0.35 are small, medium and large respectively (Hair Jr, 2013).

Table 4
Study Model

Model	Hypotheses	Structural Model			R²	Q²
		VIF	t-value	Significance Level		
1	**H₁:** Audit Committee Attributes → ARL	1.121	3.960	***	0.300	0.257
	H₂: External Audit Attributes → ARL	1.592	0.711	NS		
	H₃: Firm's Attributes →ARL	1.553	7.754	***		
2	**H₁:** Audit Committee Attributes → P_NAUF	1.095	1.040	NS	0.404	0.386
	H₂: External Audit Attributes → P_NAUF	2.324	7.840	***		
	H₃: Firm's Attributes →P_NAUF	2.245	1.352	NS		

Note:
* p value is significant at 10%, ** p value is significant at 5%, *** p value is significant at 1%.
Bootstrap confidence intervals for 10% probability of error (α =0.10)
NS= Not Significant.

CONCLUSIONS

Hypothesis of the structural model is tested on the basis of path coefficients (β) and its significance. Significance of the path coefficients is calculated through bootstrapping procedure by using 5,000 subsamples. The most significant hypothesis of the study is Audit committee attributes and its impact on delay of audit report. **Table 4** pointed negative significant association between the audit committee attribute and ARL at 1%. Which stated that the more formal audit committee, its independency, proportion on independent directors and size of committee made the audit report lag shorter as the results are similar (Afify, 2009; Hashim & Abdul Rahman, 2011; Hassan & Sarens, 2016) but the results is in contrast with (Cerbioni & Parbonetti, 2007; Wu, Wu & Liu 2008). If there is negative association between ARL and audit committee attributes its means that there is no agency problem exist. Formal or larger audit committee size become caused the promptly reporting and reduces the inherent and control risk of the organization. An external auditor in Pakistan is classified into two main groups (e.g. BIG_4 and Non BIG_4) by ICAP. Professional expertise and infrastructures of auditors became as BIG_4 Auditor (AUD). No doubt BIG_4 audit firms performed their work more promptly than others (Alkhatib & Marji, 2012; Nelson & Shukeri, 2011). Big audit firms inclined to charge high audit fees and assurance services fees and NAUF due to extensive use of audit technology as Electronic Data Processing (EDP) and Computer Assisted Auditing Techniques (CAAT) in conduction of audit and other assurance services. The second hypothesis of fist model has shown no relationship with the delay of audit report. The result is in contrast with (Palmrose, 1986) and they may use higher quality staff . Relationship between types of auditor and ARL has mixed and unclear results.

It was hypothesized that the firm' attributes its size, profitability and loss would be negatively associated that the large firms are more efficient in reporting. As it is proved that if the company is going into loss it has taken more time to declare its annual audited report. Same the case with the firms having high ROA and EPS would cause for delay in reporting due to its volume of transaction. The reason for why the size of the company has negatively related with the ARL is its

strong internal control system. The result is similar with (Afify, 2009; Carslaw & Kaplan, 1991)

Audit committee attributes and P_NAUF has found no relationship. The reason behind is that the need of other assurance services other than statutory audit is not depends upon the attributes of audit committee but also matter of need. Only the larger size of audit committee has positive relationship with the P_NAUF. The reason is the size of company the larger company has large size of audit committee and to ensure the stakeholders about the fairness of dealing the larger companies preferred to hire auditors for other non-statutory certification and examination which leads to accounts more reliable.

P_NAUF and External audit attributes has positive significant relationship. There are number of grounds firstly the non-audit fee and audit has significant relationship. Audit fee is charged on the basis of time required to complete the audit and also depends upon the AR. If the AR is high more time and test required to conclude about the fairness of the statement. So, the auditors in such case required more help with different financial experts and other non-assurance services which the regulatory body permitted the listed stock exchange companies.

Third hypothesis of the second model of the study has found positive relationship between P_NAUF and Firms attributes. Those having high volume of transaction may need more non audit services required to fulfill its operation or to reduce the reporting pressure form the responsible party. Going Concern or the companies in loss required more strings test to prove their future visibility to stakeholders because the statutory audit is not the surety for future visibility. That is why the loss taking companies got more audit services to prove their existence in future.

This study proved that non audit fee has no potential to impair the independency of the auditor. All the financial statement users may well conclude that audit report lag has no relationship with the non-audit fee. As non-audit services equipped the auditor to better understand the client system of control and able to express more comprehensive opinion about its operations. ARL and audit committee attributes has a significant relationship and assist for timely reporting. The findings of external audit attributes indicate that there is no statistical significant relationship between external audit attributes and audit report lag but it is found that BIG_4 and audit fee does matter in reporting pattern and are caused for late reports. Big audit firms have number of customers that is why there have some delay in their examining process. Firm's attributes, it shown significant relationship with reporting time. Large firms having more assets, higher ROA and EPS needed to be examine more time due to big nature of transaction. Losses leads to delay in reporting because the auditor need more attention and induct more test to express the financial conditions of loss bearing organization.

This study extended the literature that provision of non-audit services neither impair the auditor independency in financial terms nor impact on the quality of audit. The delay or promptly reporting has number of other reasons rather the provision of non-audit services. The provision on NAS is matter of knowledge spill over as the results of this study is consistent with (Knechel & Payne, 2001; Knechel, 2012)

This study is subject to the some limitations which explore new horizon for future research. First, sample contained only for the period of one year which is not suitable to generalize the study. Second, there is much other way to explore that the provision of NAS is matter of knowledge spillovers and audit efficiency. Finally, to enhance the explanatory power of the ARL and P_NAUF models, future studies may induct the internal control, corporate governance, ownership structure and nature of organization as the explanatory variables to explain these models more better way.

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