

## Factors influencing independent audit fees: Multi-group analysis PLS-SEM and moderate model

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### ABSTRACT

This study is conducted to investigate the levels of factors influencing audit fees for clients of Vietnamese garment and textile firms. Data are collected from 186 auditors in independent audit firms in Vietnam. We use PLS analysis on Smart PLS 3.0 and test the scale's reliability with Cronbach's Alpha index and the total correlation on the software of SPSS 22.0. The results show that the characteristics of audit firm, customers, auditors, characteristics of the audit and the relationship between the audit firm and customers had positive effects on the audit fee. The moderate role of auditor's age, qualification in the relationship between the auditor's characteristics on the audit fee are also verified. The findings reveal that the higher level the auditors are, and the more experiences the auditors are, the higher the cost of audit fee is. The results of multi-group analysis between auditors and customers group show that auditors believed that the characteristics of customers had the strongest impact on audit fees, whereas the audited clients claim that the characteristics of audits had the strongest impact on audit fees.

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## 1. Introduction

The topic of independent audit fee has attracted many researchers and business managers recently (Al-Najjar, 2018). Many studies try to identify determinants affecting audit fees and most of them have been accomplished in developed countries such as the United States and European countries where regulations on publicizing audit fees are completed (Suyono, 2012). However, there are still a few studies mentioning determinants affecting independent audit fees in developing countries and economic transformation institutional (AL-Mutairi et al., 2017; Choi et al., 2010; Palmrose, 1986).

Although there have been some studies conducted to identify factors determining independent audit fees, most of them have been performed in developed countries, using the secondary data and there are not many studies mentioning the determinants of audit fees in emerging markets based on the secondary data. This is mainly due to the difficulty in collecting the information of audit fees of different firms. Unlike US and Europe, where audit fees are revealed in the company's management reports, it is not very easy

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to find information on audit fees provided by firms in Vietnam. In this study, our efforts are made to clarify the determinants of audit fees in Vietnamese textile and garment firms by asking external auditors directly through survey questionnaires. The determinants of audit fees may be useful for both Vietnamese audit firms and textile and garment enterprises. For audit firms, it is important to establish fees reflecting the risk level of the audited firm which is undertaken by the auditors. For audited firms, when understanding how audit firms set the fees, they can arrange the necessary management and professionalism to reduce external audit fees. It is necessary that factors may affecting audit fees in Vietnamese garment and textile enterprises should be checked. Vietnamese garment and textile enterprises are mainly small and medium-sized enterprises (SMEs), regulations on publicizing audit fees are not very explicit. Therefore, factors affecting audit fees in Vietnamese garment and textile enterprises may differ from those in previous reports.

Our research uses survey questionnaires to collect primary information on determinants of independent audit fee in Vietnamese garment and textile enterprises. The structure of the article, beside the introduction, also includes: Literature review and research hypothesis; research methodology; research results and discussion.

## **2. Literature review and research hypothesis**

To test the determinants affecting the cost of independent audit fees, two main methods have been used in previous studies; namely using secondary data collected from firms with public audit fees. (Hesar et al. 2014; Al-Najjar, 2018). The second way for collecting data is based on the survey questionnaire for auditors and auditing customers (AL-Mutairi et al., 2017; Sangani et al., 2015).

In the first method, secondary data collection, independent variables affecting the cost of audit fees include audit scale, risk, and complexity of enterprises (Karim & Hasan, 2012; Hesar et al., 2014; Vermeer et al., 2009). In the second method, primary data collection is mainly carried out in developing countries as in these countries, audit fees is a “sensitive” issue which is less publicized, hence, it is difficult to have sufficient data on audit fees for analysis (AL-Mutairi et al., 2017). According to this approach, the researchers sent questionnaires to auditors, client firms and asked them to express their opinions on the importance of factors affecting the independent audit fees in previous studies. However, these studies only are at descriptive statistical analysis and multi-group testing following the Mann-Whitney U test. There are rarely studies that test regression hypotheses.

### *2.1. Characteristics of audit firms determining the audit fee*

A semi-structured interview and asking partners in 4 major audit firms about the factors that could affect audit fees paid by the UK's firms were used by Chan et al. (1993). They found out that the main explanatory variables of audit fees are audit size, auditor size and audit diversification. Abu-Nassar (1999) used a questionnaire to examine the determinants determining audit fees in Palestine. He found that the most important factors are the audit firm size. In another study, conducted in Jordan by Barakat and Shaban (2007), the authors delivered questionnaires to investigate factors determining external audit fees, where the company size and the number of audit branches were the main factors determining the audit fee. They also realized the audit firm's risk, experience and auditing company's skills necessary to perform tasks playing important role in determining external audit fees. An additional study carried out in Jordan by Suwaidan and Qasim (2010) employed a different approach in which the authors looked for external auditors' opinions about their importance to some factors may affecting their dependence on internal auditors during their external audit process. They found that the size of the audited firm is the most important variable in explaining the change of audit fees paid by sample firms. Suwaidan and Qasim (2010) concluded that there was no relationship between the external auditor's dependence on internal auditors and external audit fees.

A more recent study conducted by Al-Nimer (2015) examined the impact of specific preliminary variables on obligatory audit rotation. His observation was that audit independence, financial benefits and

litigation had a significant impact on external auditors' transition in Jordan. Hales (2003) sent a questionnaire to auditors in Palestine, in which 15 variables were considered to be important in determining audit fees. He found that the most important factors in determining audit fees was the audit firm's size and the time required audit completion. That's why the following hypothesis is proposed:

*H<sub>1</sub>: Characteristics of audit firms positively have impacts on the cost of independent audit fees.*

## *2.2. Auditors' characteristics determining audit fees*

A study by Al-Fadal (2003) used a questionnaire to discover factors that determine the cost of independent audit fee in Iraq. The author found that the social power of auditors was the strongest determinant to the cost of audit fees. Recently, a research by Alnaezi and Alfraih (2016) tried to test the factors affecting the cost of audit fees in Kuwait audit market. They found that auditor's experience was an important factor affecting the cost of independent audit fees. AL-Mutairi et al. (2017) conducted a survey in Kuwait, the results show that the auditor's age, qualification and experience played an important role in determining the cost of independent audit fees. This leads to the hypothesis:

*H<sub>2</sub>: Characteristics of auditors positively affect the cost of independent audit fees.*

## *2.3. Characteristics of audited firms determining audit fees*

Researchers such as Vafeas (1999) think that the effectiveness of the management board can be indexed by a large number of board meetings, as the higher frequency of these meetings prove higher monitoring of the board on financial reporting process. Therefore, effective management board requires more audit services and, as a result, more audit fees. In this sense, there is an expectation of a positive relationship between management board diligence and audit fees. Empirical evidence from Carcello et al. (2002) showed a support for that argument. The similar perspective on the importance of the management board size in the listed small and medium-sized enterprises (Al-Najjar, 2015) are applied in our study. The larger the size of the enterprise is, the more professional audit operations are required leading to higher audit fees (Suwaidan & Quasim, 2010). The effectiveness of good internal control system means that the enterprises' accounting procedures are strictly and scientifically controlled, then make the auditing easier and more convenient so reduce the cost of independent audit fees (Dahdoh, 2005; UIHaq & Leghari, 2015). Therefore, the researchers propose the hypothesis:

*H<sub>3</sub>: The Characteristics of the audited firm determine the cost of audit fee.*

## *2.4. The audit's nature determining audit fees*

In a large corporation, the overall audit is composed of synthesis reports and many domestic and foreign subsidiaries and branches take a long time and the complicated procedures then make the cost of audit fee higher (Hales, 2003). Auditing a business that produces a variety of products with many different branches will take longer time and higher cost than an enterprise that simply produces a single product and sells directly for customers such as saturated steam products of Thang Long Green Energy JSC. In addition, assuming that an unprecedented audit in history, like environmental audits or social responsibility audits, will cost more because there is no estimated budget available for these activities. Therefore, the next hypothesis is proposed as follows:

*H<sub>4</sub>: Characteristics of the audit determine the cost of the audit fee.*

## *2.5. The linking between audit firm and customers determining audit fees*

According to Alanezi and Alfraih (2016), the auditing company provides more non-audit services such as accounting, tax and finance consult makes the auditors less independent and reduces the cost of independent audit fee. For annual and new customers of audit firms, those with more audit contracts with audit firms will have lower cost of audit fees (AL-Mutairi et al., 2017). Audit firms having too close

relationships with customers will reduce the independence of auditors and thereby have impact on the official independent audit fees. A recent study by Naser and Hassan (2016) examined the basic determinants of external audit fees paid by non-financial firms listed on the Dubai Financial Market. Their report shows a significant and positive relationship between audit fees, company size and independent variables of the audit committee. Their next report shows a significant and negative relationship between the external audit fee and the complexity in business, linking between the audit firms and customers. However, profit, risk, industry type, auditing company status and audit report latency seem to be insignificant determinants of external audit fees in Dubai Financial Market. So one more hypothesis as follows is proposed:

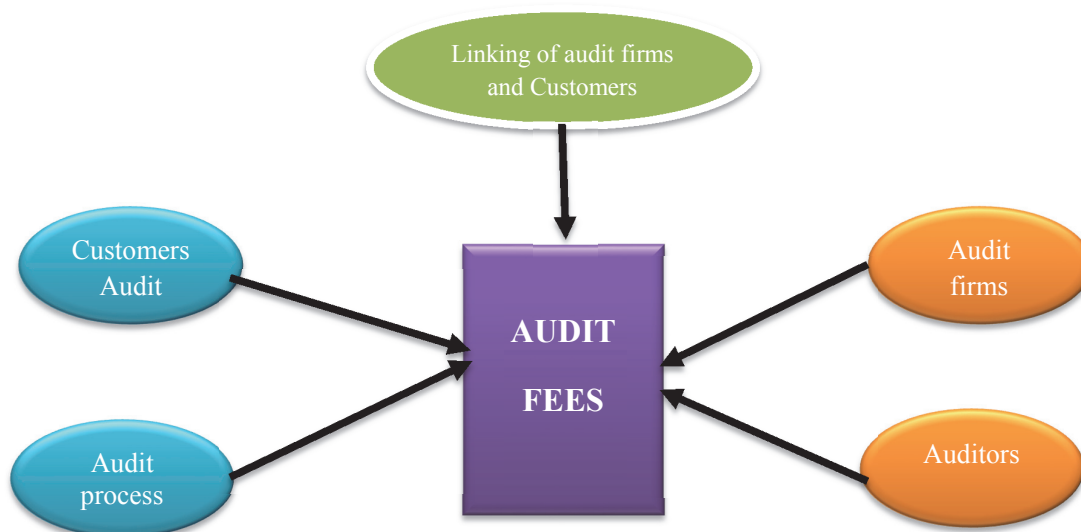
*H<sub>5</sub>: The linking between audit firm and customer determines independent audit fee.*

It is obvious that a limited number of empirical studies have been performed to explain the factors in determining audit fees in garment and textile industry, especially in countries in the context of transition economy like Vietnam. This emphasizes the need for further testing. Therefore, this research is done.

### 3. Data collection and research methodology

In the research data collected from January to March 2019, a questionnaire was sent to 200 external auditors working for domestic auditing firms such as AASC, AISC, A&C, Anviet and Big 4 international audit firms. Also, 200 survey questionnaires were sent to directors and chief accountants of 200 Vietnamese garment and textile enterprises. Among 200 questionnaires sent to independent auditors, 186 questionnaires were collected and 180 out of 200 survey questionnaires for Vietnamese garment and textile enterprises were collected. All indicators are measured on the five-point Likert scale, in which point “1” represents “very important” and point “5” represents “not important”. The questions were then entered into an SPSS file for analysis. Descriptive statistics were used to make an explicit of participants. Then, the Smart PLS 3.0 software (Hair et al., 2017) was employed to analyze the impact level of factors and multi – group analysis, and done based on the auditor's viewpoint and group of clients, analysis basing on the business's judgment. In addition, among the group of auditors, an analysis on the moderate role of auditor's age and qualifications within the relationship between the characteristics of the auditors and the independent audit fee was accomplished.

The research model is as follows:



**Fig. 1.** Research model

**Audit firms:** Measured by 7 items developed based on the research accomplished by AL-Mutairi et al. (2017) and Naser & Hasan (2016) and Al-Najjar (2018). The scales are measured by the 5 -point Likert scale with 1 is strongly important and 5 is strongly unimportant.

**Auditors:** Measured by 4 items developed by AL-Mutairi et al. (2017) and Al-Najjar (2018). The four indicators are auditors' age, auditors' qualifications, auditors' experience and the social power of auditors. The scales are measured by the 5 - point Likert scale where 1 represents strongly important and 5 is associated with strongly unimportant.

**Characteristics of the audit:** Measured by 4 indicators from AL-Mutairi et al. (2017), including: Similar audit experience, complexity of the audit, duration of the audit and estimated cost for the audit process. All scales are measured by 5 - point Likert scale where 1 is strongly important and 5 is strongly unimportant.

**Clients (or auditees):** Consists of 6 items indicating the characteristics such as firm size, effectiveness of internal control system, legal, nature of production and business activities, information technology, and efficiency of the management board. The scales were developed from Suwaidan and Qasim (2010). All scales are measured with 5 - point Likert scale with 1 is strongly important and 5 is strongly unimportant.

**Linking of audit firms and customers:** Consists of 4 items showing the connection between auditing company and customers such as: The type of service provided, the type of report provided, the length of the relationship between the auditing company and the audit customers; Number of reports provided by auditing company. These scales are developed based Suwaidan and Qasim (2010) and Al-Najjar (2018). All scales are measured with 5 - point Likert scale where 1 represents strongly important and 5 denotes strongly unimportant.

**Audit fees:** Measured by 3 criteria developed by the research group for this study based on our qualitative research, including: The cost of audit fee compared with the previous year; Cost of audit compared with competitors and audit fees compared with expected one. The scales are measured with 5 - point Likert scale where 1 represents "much higher" and 5 is associated with "much lower".

#### 4. Research Results

First, the reliability of the scale were analyzed by Cronbach Alpha index on SPSS 22, the results show that all 28 indicators have Cronbach Alpha coefficient less than 0.7 and the total variable correlation coefficient is below 0.4 (Hair et al. 2017). Therefore, all scales are satisfied.

Next, the data were put into analysis using Smart PLS software as follows:

**Table 1**  
Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Audit fees	0.982	0.983	0.982	0.666
Audit firms	0.898	0.898	0.898	0.638
Auditors	0.872	0.872	0.872	0.694
Characteristics of the audit	0.928	0.928	0.928	0.682
Customers	0.910	0.911	0.910	0.629
Linking audit firms - customers	0.911	0.911	0.911	0.672

According to Fornell and Larcker (1981), AVE (average variance extracted) must be greater than or equal to 0.5 (average variance extract) to confirm the convergence value. The summary of Table 1 shows the requirements for AVE as satisfactory. The scale loading of the scale is high ( $> 0.5$ ) and statistically significant (Henseler et al., 2009).

**Table 2****Discriminant Validity Fornell-Larcker Criterion**

	Audit fees	Audit firms	Auditors	Characteristics of the audit	Customers	Linking audit firms - customers
Audit fees	0.816					
Audit firms	0.036	0.799				
Auditors	0.012	0.022	0.833			
Characteristics of the audit	0.015	0.026	0.394	0.826		
Customers	0.040	0.049	0.037	0.030	0.793	
Linking audit firms – customers	0.014	0.010	0.067	0.388	0.020	0.820

Discriminant value (Discriminant validity): Measuring discriminant value helps to ensure differences and there is no correlation between factors used to measure factors. In order to measure discriminant values, the AVE square root of each measurement factor is greater than the latent variable correlations between that factor and other factors showing the discrimination and reliability of the factors (Fornell & Larcker, 1981). Finally, we check the factor load of each indicator for twice the convergence validity and discriminatory validity. This was achieved by considering the load factors of a greater index than any of its other structures (Chin, 1998).

**Table 3****R-square**

	R Square	R Square Adjusted
Audit fee cost	0.635	0.656

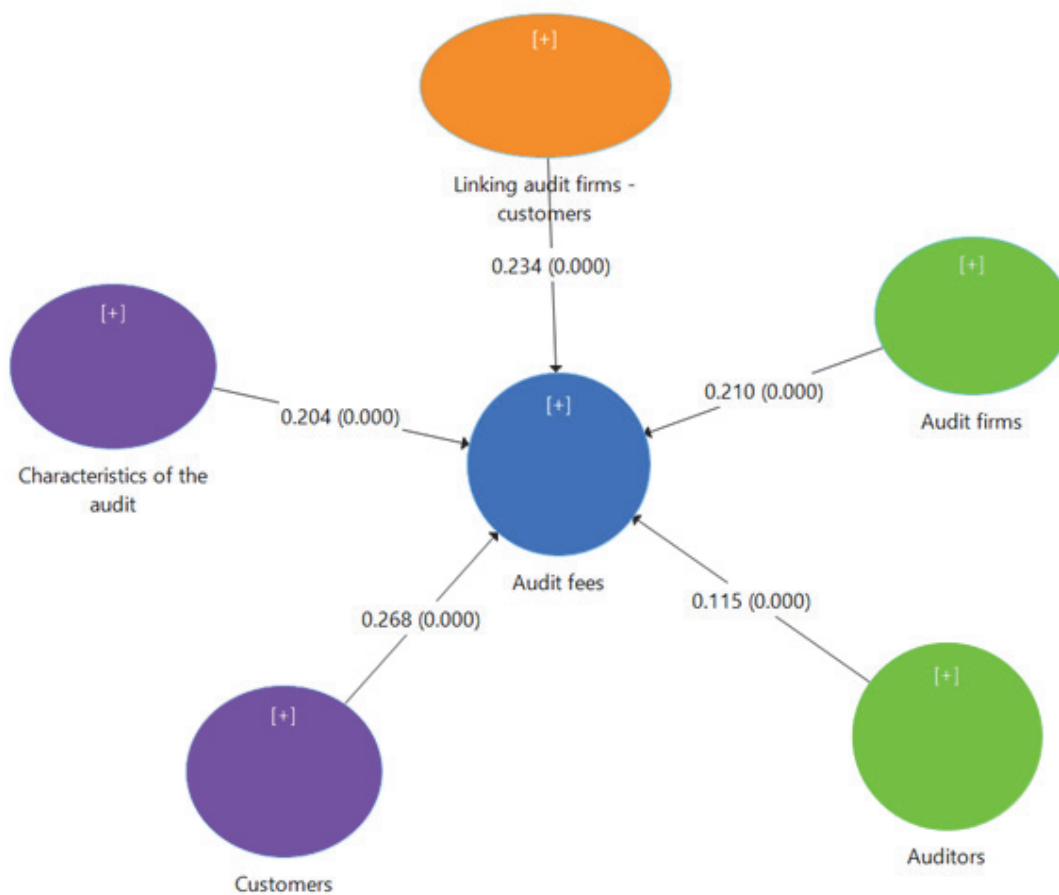
*Smart PLS. out*

Thus, the variables in the model can explain 65.6% of the fluctuation of independent audit fees. The results of testing the compatibility of the research model with the research data are summarized in Table 4. The results of testing the hypothesis are given in Fig. 2.

**Table 4****Model fit**

	Saturated Model	Estimated Model
SRMR	0.056	0.068
d_ ULS	2.938	7.212
d_ G	3.059	3.098
Chi-Square	4,464.68	4,668.82
NFI	0.890	0.892

According to Fig. 2, it can be seen that the characteristics of the audited firm had the strongest impact on audit fees. The larger the firms is, the higher the audit fee is. Specifically, the impact level of the audited firm's characteristics on audit fee is quite strong at 0.268 with the significance level of 1% (P-value = 0.000). The next are characteristics of audit firms such as reputation, the size of the auditing company have positive impact at an average impact level of 0.210 and 1% significance level (P-value = 0.000). The characteristics of the audit such as the audit duration and the complexity of the audit also positively impact the audit fee at an average impact level of 0.204 with 1% significance level (P-value = 0.000). Finally, the characteristics of auditors such as: Age, qualification and experience had positive impacts at a weak level of 0.115 to audit fee when the level of significance is 1% (P-value = 0.000). The hypotheses test results are summarized in Table 5.



Smart PLS. out

Fig. 2. Hypothesis test results by Bootstrap

Table 5

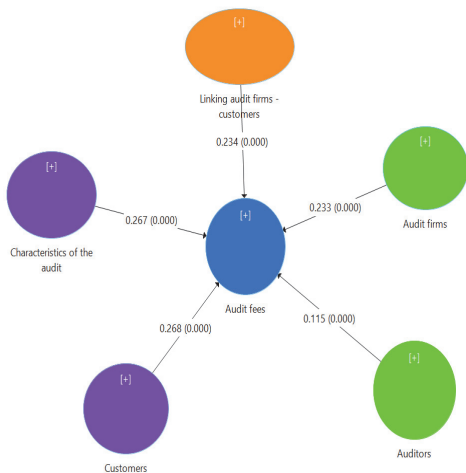
Path Coefficients

Mean, STDEV, T-Values, P-Values

	Original Sample	Sample Mean (M)	Standard Deviation	T Statistics ( O/STDEV )	P Values
Audit firms → Audit fees	0.210	0.212	0.021	10.146	0.000
Auditors → Audit fees	0.115	0.115	0.014	8.103	0.000
Characteristics of the audit → Audit fees	0.204	0.209	0.020	10.160	0.000
Customers → Audit fees	0.268	0.266	0.028	9.434	0.000
Linking audit firms - customers → Audit fees	0.234	0.230	0.017	13.787	0.000

Therefore, all the hypotheses are accepted.

Next, a multi-group analysis was conducted to check the difference between the auditors’ judgement and customers (audited firms) on the factors affecting audit fees:



a. Auditors group

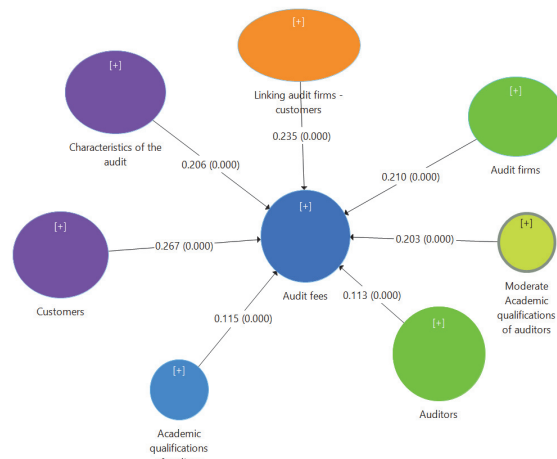


b. Customers group

It can be concluded from the above results that under the viewpoint of auditors, characteristics of auditing customers such as business characteristics, firm size, internal control system are important factors affecting the audit fees. Moreover, the characteristics of the audit have impacts on audit fees. The more complicated the audit is, the longer time it takes and the higher the cost of audit fee is. In contrast, from the perspective of auditing customers, they think that auditing company's characteristics such as reputation, size, big 4 or not big4 are the most important factors determining the cost of audit fee and the factor of customer is the one with having the weakest impact. In the next section, the moderate role of the auditor's age and qualifications in the relationship between auditors' characteristics to audit fees are examined. The results are as follows:



c. Moderate of age



d. Moderate of AQ

The above results show that both the age and the qualifications of auditors play a moderate role in the relationship between the characteristics of auditors and audit fees. Thus, the older the auditors in the audit is, the higher the audit fee cost is made by characteristics of the auditors. In addition, the better qualification of auditors is, the stronger the auditors' characteristics affecting the audit fees is.



## 5. Conclusion

This study has been carried out to identify the important factors determining external audit fees in Vietnamese garment and textile enterprises. To achieve this objective, from January to March 2019, 200 questionnaires were sent to external auditors in Hanoi, Ho Chi Minh City and Da Nang city, working for domestic audit firms and four major international audit firms. At the same time, 200 questionnaires were sent to Vietnamese garment and textile enterprises. The questionnaire was divided into two parts. The first part required basic information about respondents. The second part contained a list of factors which were important in determining external audit fees in previous studies. Respondents were asked to state the importance level they think for each factor.

The results have shown that customer size, type of professional audited services by the company, the safety of customer's internal control system and the connection between the audit firms with four big international audited firms were the most important factors that determine external audit fees in Vietnamese garment and textile enterprises. On the other hand, factors such as the location of the audited and audit firm, the complexity of the audit process and the type of report required by the auditing company have appeared to be the least important factors in determining external audit fees in Vietnamese garment and textile enterprises.

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