

# The determinants of internal audit quality

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417

Received 24 June 2022  
Revised 11 August 2022  
21 October 2022  
26 December 2022  
13 January 2023  
Accepted 16 January 2023

## Abstract

**Purpose** – This study aims to understand the behavior of internal auditors towards quality and analyze if some organizational and individual factors influence internal audit quality.

**Design/methodology/approach** – The sample is constituted by Portuguese internal auditors, and the methodology includes the use of partial least squares – structuring equation model (PLS-SEM) to test the hypothesis under study.

**Findings** – The results show that there is a negative relationship between reduced audit quality practices (RAQP) and organizational commitment and independence. The results found that time pressure positively affect RAQP. There is no evidence that perceived organizational support (POS) and risk profile are determinants of RAQP.

**Originality/value** – This work contributes by extending the literature about the determinants of internal audit quality, but also to the practice by understanding the factors that influence the behavior of internal auditors and by making recommendations that allow an improvement of the quality of internal auditing.

**Keywords** Internal audit quality, Reduced audit quality practices, Organizational determinants, Individual determinants

**Paper type** Research paper

## 1. Introduction

Internal audit is a very useful and versatile tool for management that allows an accurate picture of the organization to be assessed and to take actions to increase its efficiency and effectiveness (Eden and Moriah, 1996). It is a key element of corporate governance (Vadasi *et al.*, 2021), contributing to fraud detection (Carmeli and Zisu, 2009), risk analysis (Selim and McNamee, 1999) and compliance (Pickett, 2010). Therefore, internal auditing has been regarded as an essential function for an organization to survive and flourish (Anderson *et al.*, 2017). In this context, internal audit quality has become a relevant research topic (Krichene and Baklouti, 2021), and a relatively unexplored research field (Boskou *et al.*, 2019).

The audit quality research has focused mainly on external audit (Francis, 2004; Gandía and Huguet, 2021), with limited research about internal auditing (Abuazza *et al.*, 2015). First, the understanding and operationalization of internal audit quality has been based predominantly on the perspective of the external auditors, ignoring the other governance actors' lenses, namely the internal auditors themselves (Roussy and Brivot, 2016). Secondly, most studies assess the quality of internal audit indirectly through the performance and effectiveness of the internal audit function (e.g. Rudhani *et al.*, 2017) or based on the

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The authors gratefully acknowledge financial support from FCT – Fundação para a Ciência e Tecnologia (Portugal), national funding through research grant UIDB/04521/2020.



European Journal of Management  
and Business Economics  
Vol. 32 No. 4, 2023  
pp. 417-435  
Emerald Publishing Limited  
e-ISSN: 2444-8494  
p-ISSN: 2444-8451  
DOI 10.1108/EJMBE-06-2022-0193

independence of the internal audit department and the internal auditor's competence (Roussy and Brivot, 2016). However, researchers know little about how internal auditors behave in practice (Roussy and Perron, 2018). Thirdly, the high value added of internal auditing highlights the importance of identifying the determinants of its quality (Bota-Avram and Ștefănescu, 2009). Few studies examine the determinants of internal audit quality (Krichene and Baklouti, 2021). For example, Ibrani *et al.* (2020) studied professional care and internal auditor competence, Abbott *et al.* (2016) studied internal auditor competence and independence, Rönkkö *et al.* (2018) analyzed the effect of ownership structure characteristics, Singh *et al.* (2021) studied the three internal audit effectiveness building blocks, and Krichene and Baklouti (2021) focused on the attributes of the different profiles of internal auditors.

Bigné (2016) states that time, risk, aversion and an individual's emotions are examples of contemporary issues focused by research in various management fields. To the authors' knowledge, some of the variables studied here (e.g. auditors' risk aversion or perceived organizational support (POS)) have not been studied before in the context of internal audit quality. Further, Trotman and Duncan (2018) and Demeke and Kaur (2021) consider that it is necessary to develop more studies about the internal audit concept and its determinants. Besides all these, global changes, like the global financial crisis or the COVID-19 pandemic, have imposed greater challenges that can affect audit procedures, efficiency and quality (Farcane *et al.*, 2023).

This study addresses a gap in current knowledge regarding the way internal auditors perform their tasks during the different stages of the internal audit process and which factors determine this behavior. The objectives of this paper are: (1) to identify the occurrence of reduced audit quality practices (RAQP) as a measure of poor quality in internal auditing, (2) to analyze if certain organizational factors (organizational independence and time pressure) influence internal audit quality, and (3) to analyze if certain individual factors (organizational commitment, POS and risk profile) influence internal audit quality. The sample is constituted by Portuguese internal auditors, a context that, to the best of our knowledge, has not been the object of empirical research on the present topic and, as the internal audit activity is performed in different environments, with different laws and culture that may affect internal audit practice (IPAI, 2009). The methodology used to test the hypotheses was partial least squares – structuring equation model (PLS-SEM), which has not been used in most previous studies about internal audit determinants (Demeke and Kaur, 2021).

Our work contributes by extending the literature about the determinants of internal audit quality, and to practice by understanding the factors that influence the behavior of internal auditors and by making recommendations that allow an improvement in the quality of internal auditing.

The paper is structured as follows: the next section proceeds with the literature review, covering organizational characteristics and individual factors, the following section presents the methods, the results and their discussion and, lastly, the conclusions, contributions, limitations and future research are presented.

## 2. Literature review

Auditors with poor job performance are associated with the execution of low audit quality, meaning that they produce substandard auditing (Johari *et al.*, 2019). RAQP relate to several specific behaviors that directly threaten audit quality, such as accepting weak client explanations, failure to research an accounting principle, making only superficial reviews of documents and reducing the work below what the auditor considers reasonable (Otley and Pierce, 1996).

Organizational performance is related not only to organizational characteristics, but also to the performance of individuals. Watkins *et al.* (2004) considers that the auditors' robustness of monitoring relates to the quality of the financial statement information and their reputation

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relates to the perceived credibility of the information. Consequently, the role of human resources is essential in an organization (Ridwan *et al.*, 2020). It is important to study some variables related to individual factors, namely, organizational commitment, POS and auditor risk profile, as well as organizational factors, such as organizational independence and time pressure.

### 2.1 Organizational commitment

Organizational commitment was identified as an important variable to understand the behavior of employees in organizations and was defined as the strength of identification and engagement of an individual with a particular organization, in which individuals are available to deliver something of themselves for the well-being of the organization (Mowday *et al.*, 1979). Commitment is characterized by three factors (Mowday *et al.*, 1979): (1) acceptance of, and identification with, the organization's goals and values; (2) involvement that encourages an extra effort on behalf of the organization; and (3) strong sense of belonging to the organization.

To the authors' knowledge, the relationship between organizational commitment and audit quality has not been studied, but there are some studies that show a relationship between organizational commitment and performance (Ridwan *et al.*, 2020). Other studies reveal a positive relationship between organizational commitment and job performance (Nguyen and Ngo, 2020). So, we define the following hypothesis:

*H1.* Organization commitment negatively influences RAQP.

### 2.2 Perceived organizational support

POS is based on the development of employees' global beliefs that the organization values their contributions and cares about their well-being (Rhoades and Eisenberger, 2002), influencing the quality of service delivered to customers (Zumrah, 2015). The perception of the support is built on how the organizations treat employees and their interpretation of that treatment in different situations, namely, mistakes or good performance, and the expected reward in case of meeting organizational goals (Eisenberger *et al.*, 1986), and this influences employees' deviant workplace behavior (Kalemci *et al.*, 2019). Employees reciprocate POS through positive behaviors (Kalemci *et al.*, 2019), like "increased affective commitment to the organization, increased performance and reduced withdrawal behaviors" (Rhoades and Eisenberger, 2002, p. 712).

The scrutiny imposed by audit leads to negative feelings like distress or threat, which can generate resistance and uncooperative behaviors, resulting in possible problems for the organization (Carmeli and Zisu, 2009). These authors studied POS from the point of view of employees and not from auditors' viewpoint and found that it encourages employees to participate in the audit through a feeling of psychological safety.

To the authors' knowledge, there are no studies relating POS to internal audit quality. However, on other topics, Zumrah (2015) found a positive relationship between POS and service quality in Malaysian public sector organizations, suggesting that POS is an important factor to foster service quality. Some authors consider that POS creates feelings of reciprocal obligation towards the organization among employees, influencing their motivation to go beyond the call of duty and leading to an improved individual performance (Ridwan *et al.*, 2020). So, we define the following hypothesis:

*H2.* POS negatively influences RAQP.

### 2.3 Time pressure

The implementation of an increasing volume of new and more complex accounting standards, accompanied by a reduction of time deadlines, has increased time pressure

(Sweeney and Pierce, 2004). Johari *et al.* (2019) also highlight the heavy workload, time and social pressure of the auditing profession, which can influence the quality of the audit report (Supriyatin *et al.*, 2019). These time constraints can trigger two types of reactions in auditors: an attempt to work faster or to work more effectively (Low and Tan, 2011).

Some studies (e.g. Sweeney and Pierce, 2004) about time pressure operationalized this variable as time deadline pressure and budget attainability pressure. Time deadline pressure is perceived as a frequent cause of premature signing-off and budget attainability pressure leads to dysfunctional behavior, showing a negative relationship with quality-threatening behavior (Pierce and Sweeney, 2004). The likely response to tight budget is to under report time and reduces quality, instead of asking for a budget increase (Otley and Pierce, 1996).

Previous studies found a positive relationship between time pressure and RAQP. For example, Svanberg and Öhman (2013) related their results to a dysfunctional reaction experienced by the auditor, while Lambert *et al.* (2017) to an increased difficulty in resolving audit adjustments. Amir (2019) has also tested an indirect effect of work stress on this relation and found that it leads to a higher effect of time pressure on the reduction of quality because the auditor performs the work considering the capacity of accomplishing the expected outcome and the time set for its completion. If the time set is not enough to perform the work attributed to the auditors, they will incur RAQP to reach the expected objective. So, we define the following hypothesis:

*H3. Time pressure positively influences RAQP.*

#### *2.4 Organizational independence*

According to the international standards for the professional practice of internal auditing, the chief audit executive has the responsibility to annually confirm to the board the organizational independence of the internal audit activity (IIA, 2017). Organizational independence is a key attribute of internal audit (Al-Twaijry *et al.*, 2003) and is accomplished through a functional report to the board (IIA, 2017). Demeke and Kaur (2021, p. 57) defined organizational independence as the “freedom of internal auditors to include any audit findings in the audit reports”. Francis (2004) considers that higher audit quality can be achieved when auditors are competent and independent, characteristics that are often unclear in the literature (Watkins *et al.*, 2004).

Alzeban and Sawan (2013) identified some difficulties that internal auditors face during the audit process, namely, the restricted access not only to meet with the personnel but also to get the relevant information they need to fulfill their responsibilities, claiming that some information is confidential, or some employees have immunity. IIA (2017, p. 4) states that “internal audit activity must be free from interference in determining the scope of internal auditing, performing work, and communicating results”; other services that can compromise the objectivity and skepticism of the auditor must be unacceptable (Francis, 2004), so these interferences must be disclosed and their implications discussed.

Most studies analyze the relationship between internal audit effectiveness and organizational independence (e.g. Rudhani *et al.*, 2017), with very few studies analyzing the relationship between this variable and audit quality. Abbott *et al.* (2016) assume that independence is an important and distinct construct of a quality outcome in internal auditing. Demeke and Kaur (2021) found a nonsignificant relationship of organizational independence and audit quality; however, these authors studied a very specific population from Ethiopia. On the other side, Singh *et al.* (2021) found a positive relationship between organizational independence and audit quality. So, we define the following hypothesis:

*H4. Organizational independence negatively influences RAQP.*

2.5 Auditor risk profile

To the authors' knowledge, the effect of the auditor risk profile and the quality of internal audit has not been studied. However, Jaffar *et al.* (2011) studied the impact of risk attitude on the ability of external auditors to detect fraud and found an effect between the two variables. They based their findings on the expected utility theory, which defines that the decision made by auditors is based on the utility maximization principle, meaning that the best choice is to retain the client by releasing an audit report without reservations. These results show that risk taker auditors would be more willing to carry out less extensive audit tests, and consequently be less able to detect fraud, just to retain the client.

Byrnes *et al.* (1999) analyzed the relationship between gender and risk taking and reached the conclusion that male participants are more prone to take risks than females. In this line of thought, some studies made the connection between gender, risk aversion and audit quality. So, we define the following hypothesis:

H5. Auditor risk profile negatively influences RAQP.

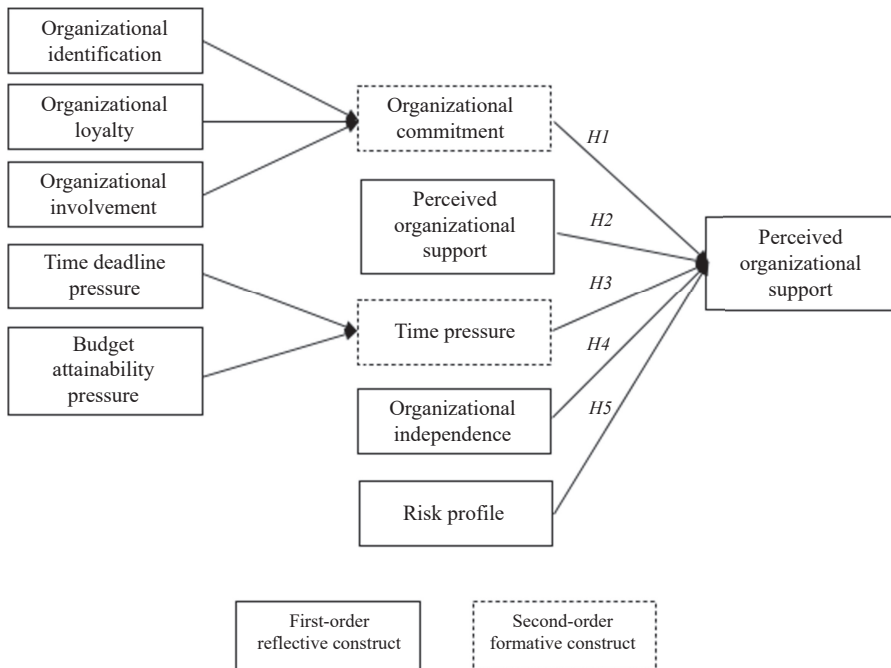
3. Method

3.1 Research model

Drawing on the literature review, this study considers five hypotheses, depicted in Figure 1.

3.2 Data collection and sample

The data were collected through a web-based survey questionnaire that was shared with internal auditors from May to July 2020. The release of the questionnaire was preceded by the



Source(s): Figure by authors

Figure 1. Research model

application of the translation/back-translation technique of the scales and pretesting with one academic and two professionals. To overcome common method variance, we adopted the following procedures (Podsakoff *et al.*, 2003): (1) a cover letter describing the objectives of the study, informing of the voluntary nature of participation and the total anonymity of the answers, providing the contacts available if any questions arise and requesting honest answers to the questions; (2) we use six- and seven-point Likert scales, labeling the points on each scale; (3) the scales employed are instruments validated in the literature, measurement items were mixed and the latent variable questions were presented on different pages so that respondents did not produce the correlation as expected; and (4) we proceeded to the statistical analysis of the common method bias using the Harman's single-factor test and full collinearity assessment. The exploratory factor analysis with unrotated factor solution yielded 16 factors with eigenvalues greater than 1, explaining about 79.5% of the variance. The first factor accounted for 22.4% of the variance, below the 50% threshold suggested by Podsakoff *et al.* (2003). Additionally, the results of the full collinearity test show that the highest score of the variance inflation factors (VIF) was 1.61, so all factors are below the threshold of 3.3 (Kock, 2015). In summary, the results of the two tests suggest that common method variance was not present.

The target population of this study comprises Portuguese internal auditors. We contacted the Portuguese Internal Auditing Institute to disseminate the questionnaire to its members, as well as sending to some internal audit departments an invitation to participate in the study and we used the LinkedIn network to share the questionnaire with individuals working in internal audit. A total of 187 responses were received, but 75 responses were discarded because more than 10% of the data were missing in the evaluation of the 57 measurement indicators. Thus, our study is based on a non-probability sample composed of 112 responses from internal auditors. Hulland *et al.* (2018) advocate that the convenience sample is sufficient to test theoretical effects based on a research framework. Naturally, this convenience sample limits the potential to generalize from the findings of the sample to the wider population.

### *3.3 Measurement of the variables*

Time Pressure involves budget attainability pressure and time deadline pressure, which were measured using two items adapted from Pierce and Sweeney (2004) on a scale ranging from 1 (never) to 5 (always). Organizational commitment encompasses three dimensions: identification, involvement and loyalty (Cook and Wall, 1980). Organizational identification was measured through six items adopted from Mael and Ashforth (1992). Organizational involvement and organizational loyalty were measured using three items each, adopted from Cook and Wall (1980).

POS was measured with eleven items adopted from Eisenberger *et al.* (1986) and Armeli *et al.* (1998). Risk profile was measured through a three-item scale adapted from Pennings and Smidts (2000). Organizational independence was measured using a fourteen-item scale adapted from Cohen and Sayag (2010) and sometimes modified to meet the needs of this research. Organizational commitment, POS, risk profile and organizational independence were measured using a seven-point Likert-type scale ranging between one (strongly disagree) and seven (strongly agree).

RAQP was measured using 13 items depicting inappropriate practices/behaviors that may have been adopted during the last year in the performance of internal auditor tasks, including eleven items adapted from Coram *et al.* (2003) and Pierce and Sweeney (2004) and two items were added to consider the degree of compliance with International Standards for the Professional Practice of Internal Auditing of the Institute of Internal Auditors (IIA's standards) (IIA, 2017). The items were measured on a six-point Likert scale, from 1 (never) to 6 (always) [1].

The scores of the organizational commitment, organizational independence, risk profile and POS constructs were computed as the participant’s mean item response. The scores of the time pressure and RAQP were calculated by summing the scores of the items. We followed the approach of the original scales’ authors.

PLS-SEM was used to assess the quality of the measurement variables and test the five research hypotheses, through Smart PLS 3.0 software (Ringle *et al.*, 2015). The reflective measurement model was used for risk profile, POS, organizational independence and RAQP (first-order constructs). Time pressure and organizational commitment are second-order constructs that have been modeled as the reflective-formative type of the hierarchical component model (Becker *et al.*, 2012).

#### 4. Empirical results

##### 4.1 Descriptive analysis

Table 1 describes the descriptive statistics. The average score for organizational commitment was 5.03, with internal auditors showing higher levels of involvement as compared to expressions of loyalty. The results show that affective reactions of these professionals to the characteristics of their employer are not particularly strong. Organizational independence had an average score of 5.32, which indicates that the internal audit function is not “completely free”. The internal auditors expressed that sometimes some circumstances interfere with/threaten their performance. The average score for POS was 4.67, which denotes a relatively low degree of agreement on the readiness of organizations to reward internal auditors for increased work effort, to value their contributions and to care about their well-being. Internal auditors show some risk aversion (average of 3.67), showing a remarkable heterogeneity in the respondents’ behaviors. The variable time pressure has an average score of 11.59, showing that internal auditors are sometimes subject to some pressure to finish the work by a specific deadline or not to exceed the number of hours planned for each project. Finally, the RAQP variable has a mean score of 19.73, suggesting that misbehaviors in internal auditing are infrequent. Anyway, if we consider the 90th percentile score, we find that there are some internal auditors who recognize that sometimes they do not perform the audit tasks with the expected quality. The data state that the average score of the indicators is

Constructs	Theoretical range	Actual range	Mean	SD	Percentile 10%	Percentile 50%	Percentile 90
OC	1–7	3.08–6.83	5.03	0.65	4.08	5.08	5.73
OID	1–7	2.83–7.00	5.22	0.80	4.17	5.33	6.00
OL	1–7	1.00–6.67	4.07	1.16	2.67	4.00	5.67
OIN	1–7	3.67–7.00	5.61	0.71	4.67	5.67	6.67
IND	1–7	2.96–7.00	5.32	0.72	4.39	5.37	6.12
POS	1–7	1.55–7.00	4.67	1.11	2.94	4.73	6.00
RP	1–7	1.00–7.00	3.61	1.73	1.10	3.67	6.00
RAQP	13–78	13–39	19.73	5.87	13	18	29
TP	4–20	4–18	11.59	2.73	8	12	15
TDP	2–10	2–9	5.65	1.52	4	6	8
BAP	2–10	2–9	5.94	1.60	4	6	8

**Note(s):** OC = Organizational Commitment; OID = Organizational Identification; OL = Organizational Loyalty; OIN = Organizational Involvement; IND = Organizational Independence; POS = Perceived Organizational Support; RP = Risk Profile; RAQP = Reduced Audit Quality Practices; TP = Time Pressure; TDP = Time Deadline Pressure; BAP = Budget Attainability Pressure

**Source(s):** Table by authors

**Table 1.**  
Descriptive statistics

low since none of the 13 practices scored above 36% of the maximum possible value (6 = always). Besides that, the three RAQP with a median of 2 were: accepted poor explanations from colleagues working in other departments of the entity, performed superficial revisions to the entity's documents and failure to complete procedures required in an audit program step in ways other than those listed.

#### 4.2 Measurement model

Table 2 presents the item loadings, composite reliability and average variance extracted (AVE), the criteria used to assess the measurement model. The composite reliability of every variable is comprised in the acceptable range of 0.7 to 0.95 (Hair *et al.*, 2019), verifying the internal consistency reliability of all reflective first-order constructs. The convergent validity of the constructs was verified through the standardized factor loadings of the items and the AVE. Following an interactive process, the original scales were refined by retaining the items with outer loadings above the threshold of 0.708, as well as the indicators with outer loadings between 0.4 and 0.708 that implied that the composite reliability or AVE of the constructs did not fall below the suggested threshold values (Hair *et al.*, 2017). The AVE of the first-order constructs exceeds the threshold of 0.5 (Hair *et al.*, 2019).

Discriminant validity has been validated. First, the square root of the AVE for each of the constructs should be greater than the highest correlation of any other construct (Fornell and Larcker, 1981). The results show that the Fornell and Larcker criterion is satisfied for all constructs (Table 3). Second, Table 3 shows that the heterotrait-monotrait ratio (HTMT) values of all the conceptually different constructs are below 0.85 (Hair *et al.*, 2019). The constructs time deadline pressure and budget attainability pressure have a high level of similarity. In this case, the HTMT value between the two constructs is below the threshold of 0.90 (Hair *et al.*, 2019). Thus, the HTMT criterion provides additional evidence of discriminant validity.

To validate the second-order formative constructs, we adopted two procedures outlined in Hair *et al.* (2017). First, we checked for potential collinearity issues between the first-order constructs that form the time pressure and organizational commitment constructs. Table 4 shows that the VIF values are below the conservative threshold of 3 (Hair *et al.*, 2017). In the second step, we assessed the significance and relevance of the relationship between the first-order components and the respective constructs. The results show that the weights of the relationships between the variables are statistically significant, and in some cases the relationship is relatively strong or moderate. Overall, the results support that the measurements of time pressure and organizational commitment match with the reflective-formative type of second-order hierarchical component models.

#### 4.3 Structural model

The assessment of the structural model was preceded by the analysis of the presence of a collinearity issue between the independent variables. The VIF values were between 1.021 and 1.771, which was below the indicative critical value of 3 (Hair *et al.*, 2019). The  $R^2$  criterion allows the evaluation of the model's explanatory power measuring the variance of the dependent variable that is explained by the independent variables, showing the model's predictive quality. The  $R^2$  value for RAQP was 0.266, exceeding 10% (Falk and Miller, 1992). Although it is considered a low score, Hair *et al.* (2017) warn that values above 0.20 may be considered high in behavioral issues. Afterward, we computed the Stone-Geisser's  $Q^2$  metric to assess the predictive relevance of the model, using a blindfolding procedure with an omission distance of 9. The  $Q^2$  value was 0.135, and since it is greater than zero, there is evidence of the small predictive relevance of the model (Hair *et al.*, 2017).



Construct	Item	Loading	Composite reliability	AVE	Construct	Item	Loading	Composite reliability	AVE	
IND	IND4	0.694	0.898	0.597	RP	RISK1	0.903	0.897	0.814	
	IND5	0.758				RISK2	0.901			
	IND6	0.864	0.836	0.561	TDP	TDP1	0.844	0.808	0.678	
	IND7	0.855				TDP2	0.803			
	IND8	0.736				BAP	BAP1			0.883
	IND14	0.713					BAP2			0.889
	OID	OID1	0.715	0.774	0.636	RAQP	RAQP6	0.694	0.901	0.566
		OID3	0.754				RAQP7	0.759		
OID4		0.790	RAQP8				0.687			
OID5		0.735	RAQP10				0.803			
OL		0.900	RAQP11				0.827			
OIN	OL1	0.900	0.863	0.759		RAQP12	0.742			
	OL3	0.680				RAQP13	0.745			
	OIN2	0.872								
POS	OIN3	0.870	0.939	0.659		POS1	0.816			
	POS3	0.796				POS2	0.787			
	POS4	0.787				POS5	0.836			
	POS5	0.836				POS6	0.826			
	POS6	0.826				POS9	0.775			
	POS9	0.775				POS10	0.882			
	POS10	0.882				POS11	0.769			
	POS11	0.769								

Source(s): Table by authors

**Table 2.**  
Evaluation of the  
measurement model

	OID	OL	OIN	POS	RAQP	RP	BAP	TDP	IND
OID	<i>0.749</i>	0.433	0.460	0.455	0.440	0.205	0.224	0.227	0.382
OL	0.290	<i>0.798</i>	0.536	0.683	0.385	0.230	0.071	0.554	0.354
OIN	0.334	0.287	<i>0.871</i>	0.446	0.392	0.175	0.115	0.245	0.277
POS	0.398	0.483	0.363	<i>0.812</i>	0.275	0.141	0.202	0.504	0.583
RAQP	-0.350	-0.237	-0.313	-0.275	<i>0.752</i>	0.181	0.287	0.350	0.390
RP	-0.027	-0.157	-0.098	-0.112	0.151	<i>0.902</i>	0.069	0.271	0.072
BAP	-0.121	-0.040	-0.053	-0.167	0.233	0.039	<i>0.886</i>	0.869	0.236
TDP	-0.132	-0.276	-0.142	-0.358	0.242	0.169	0.540	<i>0.824</i>	0.192
IND	0.309	0.249	0.222	0.525	-0.353	-0.063	-0.164	-0.134	<i>0.773</i>

**Note(s):** The italic face scores on the diagonal are the square root of AVE. HTMT ratio above the diagonal and correlations between the constructs below the diagonal

**Source(s):** Table by authors

**Table 3.**  
Discriminant validity

2nd order construct	1st order construct	Weight	<i>t</i> statistics	VIF
Time pressure	Time deadline pressure	0.512	15.408	1.411
	Budget attainability pressure	0.626	17.820	1.411
Organizational commitment	Organizational identification	0.696	12.018	1.180
	Organizational loyalty	0.247	4.612	1.143
	Organizational involvement	0.366	6.794	1.178

**Source(s):** Table by authors

**Table 4.**  
Measurement  
properties of formative  
constructs

Finally, we found that some independent latent variables contributed to explain the variance of the dependent latent variable, since the standardized beta values of paths coefficients reached statistically significant levels (Table 5). The results show that RAQP are negatively influenced by organizational commitment and organizational independence. Time pressure has a significant positive effect on the propensity for internal auditors to misbehave. Looking at the magnitude of the path coefficients, we found that organizational commitment is the most impactful determinant of internal audit quality, followed by organizational independence and time pressure. Finally, the results do not provide evidence that POS and risk profile are determinants of audit quality.

#### 4.4 Discussion of the results

The purpose of this paper was to understand the effect of individual and organizational factors on internal audit quality. H1 posits that organizational commitment negatively influences RAQP. The results indicate that it is supported, which is in line with the findings of

Structural relations	Path coefficient	Standard errors	<i>t</i> statistics	<i>p</i> values	Test
H1: OC → RAQP	-0.340	0.115	2.968	0.003	Accepted
H2: POS → RAQP	0.097	0.120	0.809	0.418	Rejected
H3: TP → RAQP	0.185	0.080	2.310	0.021	Accepted
H4: IND → RAQP	-0.244	0.120	2.031	0.042	Accepted
H5: RP → RAQP	0.095	0.085	1.108	0.268	Rejected

**Source(s):** Table by authors

**Table 5.**  
Structural model  
assessment

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Nguyen and Ngo (2020), who found a positive relationship between organizational commitment and job performance. Internal auditors who nurture a greater sense of belonging to the organization are less likely to engage in misconduct that negatively affects internal audit quality. Organizational commitment is a multidimensional construct. Our finding should prompt increased attention in managing matters that impact the identification, involvement and loyalty of internal auditors.

The first focus should be on the symbiosis between the organization's culture and the specific values of each auditor. The organizational culture represents the values, beliefs and behaviors shared by a group of people. Culture affects the ethical behaviors of internal auditors and is often a decisive element in attracting and retaining these professionals (Rittenberg, 2015). The promotion of a strong ethical culture may become an important element to reduce the risk of RAQP. For this purpose, the adoption and effective internalization of a code of conduct or orientation and training programs may be relevant formal instruments to increase internal auditors' identification with ethical behaviors.

Second, the results suggest that audit quality benefits from full absorption of the activities performed by internal auditors. The willingness to invest personal effort for the sake of the organization is synonymous with full involvement (Cook and Wall, 1980). In internal auditing, there are several initiatives that are likely to show the level of involvement impacting job performance. The results of the latest international survey of IIA reveal that professional standards are sometimes not applied due to their complexity and inadequate internal audit staff (Bailey, 2015). These barriers can be overcome if internal auditors do not give up, seek knowledge to demystify complexity or invest in their own development. Harrington and Piper (2015) point out that, internal auditors cannot simply wait for the training provided by employers, especially in smaller internal audit departments. Proactivity on behalf of the organization is also shown by the effort made to understand the desires of the stakeholders and what needs to be done to fulfill them. In practice, this involves aligning the assurance, insight and objective advice activities performed by internal audit with the strategic objectives of the organization. In this way, internal auditors add value, which is a strong, positive sign of their involvement with the organization. Highly involved internal auditors are less likely to engage in acts that undermine stakeholder confidence or lead to non-compliance with professional standards. Alternatively, involved internal auditors seek to work more energetically, creatively and committedly for the organization and its goals (Turner, 2015).

Third, the results suggest that the mental attachment to the organization (loyalty) decreases RAQP. Retaining good team members is one of the current imperatives of the profession (Harrington and Piper, 2015). This aspiration involves the use of instruments that promote job satisfaction and the desire to stay in the organization. Feeling the organization as their own motivates employees to want the best for it. In the case of internal auditing, this motivation involves performing their professional duties more zealously, raising to higher levels the exercise of appropriate professional care required by the IIA's standards (IIA, 2017). Careful auditors are less likely to carry out ad hoc procedures, not clearly document their work, neglect to monitor the work or ignore the client's needs and expectations. The more loyal internal auditors are to the organization, the better the internal audit quality.

The estimated coefficient does not allow us to prove H2. The literature suggested that the individual's perception that the employer supports and values their work would boost job performance and reduce withdrawal behaviors (Rhoades and Eisenberger, 2002). As POS variable reached a mean score of 4.67 (moderate value), consequences would be expected for internal audit quality considering two specific circumstances. First, the motivation of internal auditors can be developed by intrinsic and extrinsic rewards, which should encompass the various forms of intrinsic rewards (Turner, 2015), but there is still a long way to go in internal audit departments. Second, the proficient and careful development of professional activity

does not always earn the support of the management/audit committee (Ramamoorti and Siegfried, 2015), and in some cases is the reason for the nonadoption of professional standards (Bailey, 2015). Despite this context, our H2 was not supported, which may be understood through the intrinsic characteristics of individuals. According to Rittenberg (2015), the profession usually attracts individuals who have high personal values and ethical standards. Awareness of the importance of internal auditing in improving organizational governance may encourage internal auditors not to react adversely in their profession because of the lower recognition they may be subjected to. The altruism of internal auditors probably makes their professional pride in performing their tasks effectively and efficiently more relevant than the value placed on their work by others.

H3 predicts a positive relationship between time pressure and RAQP and is supported by data. The dysfunctional behaviors of internal auditors are related to the pressure to comply with a time target or not exceeding the hours budgeted. Internal audit activities are not entirely predictable; the dynamic business environment and organizational changes require a frequent adaptation of the audit plan (Abdolmohammadi *et al.*, 2015). Although internal auditors are challenged to perform an increasingly diverse range of tasks, the internal audit staff size is not always what is needed to comply with the standards (Bailey, 2015), and the technology used does not support the audit processes in a meaningful way (Cangemi, 2015), namely computer-assisted audit tools and techniques (Samagaio and Diogo, 2022). These factors increase the risk that internal auditors will not be able to meet time deadlines. Our finding highlights the importance of organizations thinking through the role and strategy of internal audit to make it explicit, continuously monitored and communicated throughout the entity.

In general, increasing audit quality may involve organizations investing more time in carrying it out (Pierce and Sweeney, 2004), as some of the activities performed by internal auditors, such as detecting and investigating fraudulent schemes, take a significant amount of time (Araj, 2015). Since financial resources are finite in organizations, it is natural that the performance evaluation metrics of the internal audit function include various inward-facing indicators related to budgeted time attainment (Seago, 2015). Thus, a potential conflict could emerge between the need to keep the time budget under control and the requirement to maintain high levels of compliance with auditing standards. Our finding suggests that internal audit work plans should allow an adequate amount of time to cover all tasks that enhance and protect organizational value and assist organizations in carrying out their mission and achieving their goals. The IIA's 2010 standards (IIA, 2017) require that the chief audit executive should establish a plan that prioritizes the activities consistent with the organization's goals. However, almost half of the internal audit departments do not have their audit plan based on the strategic plan (Harrington and Piper, 2015), and do not always update it in a timely manner. The increasing interaction with stakeholders (e.g. audit committee), and the complexity and demanding challenges posed to internal auditors (e.g. cybersecurity risk) make the issue of time management a critical factor for internal audit quality. In summary, our study shows that internal auditors may engage in actions or make decisions that threaten audit quality just to avoid compromising the target time for the task or failing to deliver their outputs on time.

The data support H4, confirming the findings of Cohen and Sayag (2010): organizational independence improves audit quality. This suggests that the quality of internal auditing is boosted when internal auditors can perform their work without threats of self-interest, intimidation or otherwise. The IIA's 1100 standards (IIA, 2017) require that internal audit activity must be independent, expressed in the absence of conditions that threaten the ability of internal auditors to perform their tasks in an impartial manner. Internal auditors are almost always employees of the organization they audit, which can raise problems in the freedom of analysis and action, reporting of findings and relations with other people inside the

organization. Furthermore, internal auditing performs assurance, insight and objective advice activities (Seago, 2015). The repercussions of the results of these activities sometimes arouse internal auditors' fears and compromise their independence. The results of the latest international survey by the IIA reveal that 24% of auditors are frequently pressured to change their audit findings (Rittenberg, 2015). Resistance to pressure has various implications, such as exclusion from meetings, transfer to other positions, pay cuts, etc (Rittenberg, 2015). Our finding reinforces the proposition that organizational independence is a cornerstone in internal audit. Organizations that create conditions and establish structures that support internal audit activity can achieve higher levels of quality in the performance of internal auditors.

Finally, we could not prove H5 empirically. In many situations, internal auditors are required to use professional judgment in the performance of their tasks (IIA, 2017), which may be affected by individuals' perception of risk. The theory of planned behavior states that the attitude toward a behavior is a function of the individual's beliefs about the probable consequences of the action and assumes that the intentions to perform an action are directly linked to its accomplishment (Ajzen, 1991). The results of this study show that misconduct (risk behavior) is not dependent on the individual risk propensity attitude of internal auditors. Trotman and Duncan (2018) claim that internal audit quality is affected by personality traits, with risk propensity being associated with the profile of an extroverted, open, neurotic, agreeable and conscientious individual (Nicholson *et al.*, 2005). Our finding highlights the importance of further examining the impact of human capital attributes on internal audit performance, namely, personality traits, soft skills, training or experience. Moreover, the results suggest that internal auditors are idiosyncratic and heterogeneous productive resources, capable of determining audit quality differentially.

## 5. Conclusion

The results of this study show that there is a positive effect of organizational commitment and organizational independence on internal audit quality. Moreover, the propensity to incur RAQP increases when internal auditors are under time pressure. However, the results do not provide evidence that POS and risk profile are determinants of audit quality. These findings provide support that internal audit's capacity to create value and improve the organization's operations is constrained by factors associated with the individual and the entity.

### 5.1 Research implications

The theoretical implications of this study are fourfold. First, this paper contributes to the stream of research regarding the determinants of internal audit quality, a topic with few studies. Except for organizational independence, this study is pioneering in examining the effect of risk profile, POS, organizational commitment and time pressure on internal auditors' performance. Moreover, the results show that organizational commitment is the most impactful determinant of internal audit quality, followed by independence and time pressure. Thus, our work shows that the organizational environment and the internal auditors' characteristics are drivers of internal audit quality. Second, the effectiveness of the internal audit function is shaped by a mix of factors that drive stakeholders to demand audit quality and by the concerns and regulation of regulators. This study fits into a third dimension by identifying factors that drive internal auditors themselves to supply audit quality. Third, audit quality is a complex concept, interpreted differently by governance actors. This study focuses on the perspective of internal auditors in carrying out their activities, a current of research that has been little observed in the literature. On the other hand, internal auditors' perceptions of their misconduct offer an alternative way to measure the quality of their work against other metrics such as internal audit effectiveness. Fourth, several items on the RAQP

scale suggest ethical concerns in the professional judgment and actions of internal auditors. Our results emphasize the importance of researchers not only focusing on experience, education or technical skills as components of internal audit quality but also including the ethical skills of internal auditors.

Regarding the methodological implications, we developed a literature-based scale to measure RAQP, with the measurement model identifying several items with satisfactory levels of reliability. The RAQP metric is used in the external audit quality literature. To the best of our knowledge, this study is pioneering in adapting this metric in the internal audit field. Moreover, we used the PLS-SEM method, which is a second-generation data analysis technique that allows for robust estimations of second-order constructs as well as better understanding of more complex structural and measurement models. Previous studies have used conventional statistical methods (e.g. ordinary least squares regression).

This study is relevant for a more fruitful management of internal audit departments. Internal auditors recognized that they did not always perform as desired. This finding has a threefold implication. First, it reinforces the importance of internal audit departments developing and maintaining quality assurance and improvement programs prescribed in the IIA's 1300 standard. The Common Body of Knowledge 2015 (O'Loughlin and Swauger, 2015) reports that about two-thirds of internal audit departments do not conform with professional standards related to internal audit quality. Our finding shows the immediate need to introduce ongoing monitoring activities, periodic self-assessment or external assessments, to mitigate RAQP. Second, our study provides useful information on the determinants of internal auditors' performance that can be addressed in organizations to improve internal audit quality. For example, the development of upstream policies that positively impact organizational commitment or reduce time pressure could be alternative tools for improving internal audit quality, particularly in small internal audit departments. For example, organizations may implement wisdom management practices that, according to Jakubik and Mürsepp (2021), involve ethical issues, social values and value judgments linked to knowledge of best internal auditing practices. Third, the audit committee uses the internal audit work to make better-informed decisions in terms of improving internal control, risk management and governance. In this regard, the performance of internal auditors should be sufficiently articulated with the interests of the audit committee. The results of our study reveal how vital the preparation and implementation of internal policies by the audit committee is to minimize the risk of the RAQP occurrence. These policies may include more effective and interactive planning, the promotion of soft skills of auditors to mitigate the effects of stress, and provision of a budget compatible with the functions of internal audit, among others. A high-quality internal audit is an element of assurance, advice, a valuable resource in the improvement of corporate governance systems and driving value on what really matters in the company. Finally, this study has policy implications. The results show that organizational independence positively impacts internal audit quality. Internal audit findings are often inconvenient for the board of directors and internal auditors do not always report functionally to an internal committee composed of independent individuals. The Common Body of Knowledge 2015 (Rittenberg, 2015) reports that internal auditors are subject to significant pressures to change or suppress audit findings. Regulators and governments should create standards that improve corporate governance by strengthening the status of the internal audit department inside organizations to mitigate resistance to the role and duties of internal auditors. Additionally, the regulators of the companies with the greatest impact on the economy may institute mandatory external quality control of internal audit works carried out by an individual/team from outside the organization. This could reinforce the perception that internal auditors need to be truly professional. Consequently, the primacy of internal audit quality brings internal auditors closer to identifying and addressing the most critical issues in the organization.

### 5.2 Limitations and future lines of research

A limitation of this study was that “political correctness” may have influenced the measurement of the items. Future studies could control social desirability direct effects on responses by using the social desirability scale. Moreover, examination of other factors, such as the personality and training of internal auditors, or the ethics culture and career opportunity in the entity, may be fruitful avenues for future research.

### Notes

1. The measurement items of constructs used in this study are available upon request from the authors.

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