

# The role of emotional intelligence and personality on the overall internal control effectiveness: applied on internal audit team member's behavior in Lebanese companies

Emotional  
intelligence  
and internal  
control

195

Received 16 April 2021  
Revised 24 June 2021  
9 October 2021  
20 October 2021  
Accepted 9 November 2021

Manale Abdo, Khalil Feghali and Mona Akram Zgheib  
*Faculty of Economics and Business Administration, Lebanese University,  
Beirut, Lebanon*

## Abstract

**Purpose** – This paper aims to assess the influence of emotional intelligence (EI) on the perceived internal control performance in the Lebanese companies.

**Design/methodology/approach** – The goal of this study is to decide whether there is a connection between “emotional intelligence” and perceived efficacy of “internal control” in Lebanese organizations. For the benefit and purpose of this research, a quantitative methodology will be applied. The data was collected by the use of self-directed and pre-coded questionnaires to test hypotheses made, making it a deductive research.

**Findings** – The findings showed that the personality traits of the members of the audit team play a key role in cultivating a control climate that is more conducive to effective control. Moreover, personality traits were key in boosting trust and openness in communication that can be seen as antecedents to having a system where all key auditing professionals within the organization can cooperate to boost the effectiveness of the internal control framework. These personality traits amplified the impact of the EI of audit manager on the overall effectiveness of the COSO framework, thus leading to improved efficiency of internal controls.

**Research limitations/implications** – The exploratory aspect of this study have shown results that are general but create a basis for future comprehensive researches. This study was limited to a relatively small sample, due to the small size of Lebanon and due to the Pandemic that has limited our access to more data. This research did not regulate other relevant variables such as gender, experience, educational level and age. Nevertheless, the importance of the findings is they ascertain that internal control is not a rigid technical function that is primarily concerned with accounting and financial disciplines, rather it extends to organizational psychology and behavior.

**Practical implications** – The practical implication of studying EM and personality in Lebanese organizations is to describe and understand how it affects the effectiveness of the internal control and thus the survival of the organization. When organizations are aware of such a strong impact, they will try to increase their maturity level in this regard and further seeks more efforts in tackling the EI aspect. As a summary, the practical implication of this paper is to understand how all those variables affect the effectiveness of the internal control and thus the survival of the organization.

**Social implications** – The subject of this study consists of many human-related aspects such as personality and human behavior. Once these elements are combined with the internal control framework, it will have an added value at the social level by enhancing the behavior of people and their perception of others' emotions and oneself emotions, in addition to improving their performance which reflects on enhancing the overall organizational performance. Studying EI allows to understand and manage emotions in order to create positive social interactions. The benefits of EI are vast in terms of personal, academic and professional success.

**JEL Classification** — D23, L21, L22, M10, M12, M49, O19

© Manale Abdo, Khalil Feghali and Mona Akram Zgheib. Published in *Asian Journal of Accounting Research*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>



Asian Journal of Accounting  
Research  
Vol. 7 No. 2, 2022  
pp. 195-207  
Emerald Publishing Limited  
2443-4175

DOI 10.1108/AJAR-04-2021-0048

**Originality/value** – Due to the lack of research on this topic, this research will contribute to explore the field. Future studies will benefit from this analysis while using a larger sample. Future work should aim to include not only auditors but all staff of the company. Further research is required to decide whether the results of this analysis are generalized across various positions and industries and to determine whether EI is the only influential aspect involving a significant number of social interactions. In addition, this article can be used as a basis for the implementation of internal control with a COSO framework that involves the EQ of everyone in the organization.

**Keywords** Emotional intelligence, Emotional wellbeing, Five-factor model of personality, Internal control, COSO

**Paper type** Research paper

## 1. Introduction

The collapse of Tyco International, WorldCom and Enron, boosted the skepticism of lenders, which contributed to increased anxiety in investing in listed companies (Petra and Loukatos, 2009). These crises have been reported as being generated by the presence of insufficient internal control systems (ICS) knowing the accounting and financial groups were entirely certain that the greatest way to prevent collapses, deter fraud and guarantee asset security is to implement a well-built ICS (Spira and Page, 2003). So, the necessity of ICS such as the Committee of Sponsoring Organizations of the Treadway Commission (COSO) which were previously developed became even more prevalent (Pfister, 2009). Ittonen (2010) claimed that the board of directors has a duty toward lenders, creditors and other stakeholders to implement IC procedures and to assure that they are secured against major material vulnerabilities. Maintaining a strong working relationship with the internal auditors of the company is a key factor which determines a successful performance of the audit committee (Goodwin, 2003).

The IC activity tests the controls used by the line management and the operational departments that are normally most concerned with the daily operations of the company (Arena and Azzzone, 2009). The business operations in Lebanon have lately shown an increase in complexity, combined with restrictive governance structures implemented by the financial sector. Moreover, family-owned firms have increased in size, yet simultaneously, requisite a tighter supervision and management to guarantee the accuracy of the financial reporting and the success of productive operations (Abdo, 2014). This signified that compliance with rules and asset safeguard have become crucial characteristics of the Lebanese business landscape. This means that the “internal auditing” and IC functions have become the core principles of the Lebanese market. However, the inclusion of behavioral/cognitive/emotional factors affecting the perceived effectiveness (PE) of IC has not yet been studied. Also, Yang *et al.* (2017) demonstrated the significant role the EI tends to play in mitigating the burden of auditors and impacting decision-making in the practices of public accounting firms in recruitment, preparation and promotion decisions. In this same perspective, Brody *et al.* (2020) state that EI assists in enhancing the decision-making process through boosting auditors’ skills which lead to an effective accomplishment of their tasks.

Based on the results achieved by Dewi and Ramantha (2019), a high emotional ratio will negate the position of the auditor’s performance dispute, which means that the auditor’s performance will improve. The study focuses on analyzing the role of the audit team’s EI and “Personality” (NEO-PI) in influencing the five components of COSO and therefore in moving to determining the perceived efficacy of internal control (IC). The five components of “COSO” are: “control environment”, “risk assessment”, “information and communication”, “control activities” and “monitoring” (COSO, 1994). Therefore, these components raise the following research questions of the current study: (1) How does EI of the audit team members affect the performance of IC? (2) What effect do the varying elements of personality have on the

perception of IC effectiveness? (3) How do the various aspects of personality mitigate the role of EI on the effectiveness of “IC”?

The research in this area is remarkably lacking in the literature in general, especially in Lebanon where a significant exploration regarding the keywords of EI, Personality and IC efficiency is unable to achieve any significant results. Additionally, in 2014, the results of a preliminary study on COSO awareness within Lebanese auditors revealed that there is generally a poor comprehension of the situation (Abdo, 2014). Consequently, the study in the context of Lebanon is very unique and approaches a field that has not been introduced previously.

The first part of this article is devoted to the review of the literature focusing mainly on the EI, personality and the COSO framework. However, a multitude of research linking EI and personality to the constructs of IC has been explored. Later, we define the relation between these concepts to ultimately present the research methodology adopted as well as the definition of the population and the sample concerned by the study. Subsequently, we present the results obtained including the discussion of the findings and sharing valuable recommendations. The exploratory aspect of this research contributed to a more comprehensive and precise definitions and explanations about EI which could change the goals, strategies and interests of administrations.

## 2. Literature review

The aim of this section is to present a review of the literature pertaining to personality, EI, internal audit effectiveness and the relationship between these concepts. It will present a theoretical framework of key theories utilized in this study in addition to outlining the underlying hypotheses.

### 2.1 Emotional intelligence conceptualization

Looking at EI history, Hassan (2016) noted that it has emerged more than 100 years ago as a distinctive form of intelligence. The long development of this century led the way to the issue of three EI approaches, which can be seen as (1) an intuitive skill, (2) an acquired competence and (3) a combination of both (skill and competence). Emotional intelligence (EI) is a new explanatory concept for human behavior and performance that has recently attracted attention in popular literature (Schulte *et al.*, 2004). The researchers present a conceptualization of “Emotional Intelligence” and a working definition before thoroughly discussing these three streams of EI.

First, the formal definition of EI has been established in 1990 by “Salovey and Mayer” as “The subset of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions”. The perception, comprehension and control of emotions are all part of Salovey and Mayer’ model of EI. Its supporters believe it is unique from either personality or general cognitive capacity (Dhliwayo *et al.*, 2020). Salovey and Mayer stated that in addition to being a fully independent aspect of intelligence, EI also consists of several aspects that could be utilized to regulate emotions and perceptions in order to enhance human experiences. Other than the initial definition, Salovey described EI as “the ability to perceive emotions, to access and generate emotions, and to reflectively regulate emotions so as to promote emotional and intellectual growth”. The present study adopts the previous definition by “Salovey and Mayer” based on the fact that the search implements the skill-based model of the EI and that the emphasis is on attitudes and behaviors rather than on introversions and reflexivity as implied in the second definition.

## 2.2 Historical perspective on “emotional intelligence” research

The first clear delimitation of EI emerged in 1983 through the works of Howard Gardner through the development of the concept of “Personal Intelligence”. The work of Salovey and Mayer (1990) formed the first true work that distinctively reveals EI as a separate form of intelligence. This model clearly delineates EI as the capability to: (1) recognize and understand emotions in one-self and in another and (2) manage emotions in one-self and in others. The last component of EI research is named the mixed model of EI and was developed by Bar-On (1997). The main aim of this view is to reconcile the ability-based view of EI with the competence-based view. Bar-On (1997) argued that the EI is composed of four components: (1) personal intelligence, (2) mood management, (3) stress management and (4) adaptation of emotions. Throughout this analysis, the researchers follow a skill-based EI paradigm that focuses on the individual’s capability to analyze emotional knowledge and use it to manage the social environment of the entity. Therefore, the research must also concentrate on personality characteristics; known as the Major Five personality traits or the Five-Factor Model of personality.

## 2.3 The five-factor model of personality

One of the most used definitions of personality is outlined by the American Psychological Association which identifies it as the “Individual differences in characteristic patterns of thinking, feeling and behaving”. This definition shows the ability to categorize these traits in a way that makes it possible to predict behavior (Cattell, 1943). These traits led to the emergence of multiple streams of personality research, including the “Five-Factor Model (FFM)” that is the most prominent and used in the current article. Further analysis of these terms led to their reduction to four general categories of traits: (1) personality traits which are concerned with stable and consistent moods of the individual, (2) temporary moods and states of being, (3) personal reputation and conduct as perceived by others and (4) behavior and abilities that could not be specifically assigned to personality.

Norman (1967) carried out physical refinement on the basis of these classifications. Although this marked a significant refinement and classification of traits, it was still not well defined to be developed as a generalized model. Furthermore, Cattell (1945) was the first who made a real effort in coming up with a clear and concise classification of personality traits, as he was able to bring the 4,500 terms to merely 35 variables. Furthermore, Cattell (1971) in a seminal work marking the real beginning of the FFM merged the variables into 16 personality factors which were identified as “primary factors”. The list of these 16 primary factors is provided in Table 1 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPiV>). The factors ranged across a scale denoting descriptor from low-end to high-end. The real breakthrough and development of the FFM came from the works of Costa and McCrea (1992) who further grouped the 16 primary factors of Personality (PPF) of Cattell into five factors. Table 2 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPiV>) outlines how the 16 factors were remodeled to FFM.

The majority of the five factors are associated with leader emergence, conduct or effectiveness, according to research reviews (Baczynska and Rowiński, 2020): The five elements were defined as the following: (Johnsi and Sunitha (2019):

- (1) *Neuroticism (N)*: defined as the tendency toward anxiety, depression, vulnerability, anger, hostility, self-consciousness and other negative feelings.
- (2) *Extraversion (E)*: refers to the tendency to focus on gratification and is characterized by warmth, positivity, assertiveness and excitement seeking.

- (3) *Openness (O)*: indicates how open-minded a person is, denotes receptivity to new experiences and ideas and is characterized by high level of curiosity, imagination, attentiveness to inner feelings and preference for variety.
- (4) *Agreeableness (A)*: characterized by traits such as sympathetic, warm, straightforward, altruistic, compliant, cooperative, modest and friendly.
- (5) *Conscientiousness (C)*: is the personality trait of being responsible, goal directed, organized and hard working.

The best utilized tool for the measurement of FFM is the NEO PI-R. The compact version "IPIP-NEO 120" elaborated by "Johnson" in 2014 consists of 120 elements assessing the five personality traits, all of which are measured by 24 items (four for each sub-facet of personality). A broader explanation of the factors and sub-factors of the FFM is provided in Appendix (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ6x2xWi8qx5xLH4g?e=XjE1sO>). After the identification of the FFM, an IC should be carried out at three levels (operations, reporting and compliance) for which the COSO framework is used.

#### 2.4 COSO framework

In 1992, after the succession of fraudulent activities, the "Treadway Commission and its Sponsoring Organization Committee" published the "*COSO Internal Control Integrated Framework*". This new paradigm adjusted the view of IC by emphasizing two main aspects that had previously been ignored: (1) IC should be seen as a process that is fluid rather than a system, and (2) The global extent of IC is enlarged to organizational aspects, in addition to financial reporting which remains a primary objective of IC. "COSO" has described IC as: "*A process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives on the following categories: Reliability of financial reporting; compliance with applicable laws; and, effectiveness and efficiency of operations*" (COSO, 1994).

The COSO framework presented in Figure 1 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ4pZZmt3ziueKyoA?e=DWxNHH>) implies five components which are interlinked and constitute the IC mechanism (COSO, 2013). The columns represent the three objective categories, the rows consist of the five components which can be extended flexibly through the organizational levels. The following is a short overview of the elements of the COSO framework:

- (1) *Control environment*: is the foundation of the system; it sets the tone for the whole IC mechanism and includes the ideology, the ethical principles and the team spirit in the company (COSO, 1994). The management style has a significant impact in this regard.
- (2) *Risk assessment*: This element covers the risk detection procedure. Consequently, it involves the ability to identify the manageable risks that can be minimized during the establishment of IC elements and the uncontrollable elements that arise from any modification in the external environment where the company operates (COSO, 1994).
- (3) *Control activities*: are the activities which guarantee that the company leads to determined risks in compliance with guidelines, policies and procedures; this can contribute to the achievement of organization goals (COSO, 1994).
- (4) *Information and communication*: This element highlights the importance of offering precise and reliable information to control functions and staff in a timely manner, to allow them to execute their control tasks.

- (5) *Monitoring*: This involves evaluation practices and procedures that measure the efficiency of ICSs. COSO (1994) claims that these evaluations could be carried out as independent tests or as part of a sequence of ongoing activities.

### 2.5 Proposed model

The relation between EI of the audit team members and the PE of COSO has not yet been investigated. Furthermore, the role of the personality of auditors in terms of PE of COSO implementation has been neglected in the study. However, a multitude of research linking EI and personality to the constructs of internal control has been explored.

2.5.1 *Link between emotional intelligence and the constructs relating to internal control*. Karkoulian *et al.* (2010) argued that having higher EI leads to greater tendency to share knowledge and thus increases the propensity of having more open communication (COSO's information and communication). Alternatively, Abzari *et al.* (2014) argued that higher EI leads to a more trusting relationship between participants in an organization thus further enhancing two very important constructs of COSO: Control activities and Control Environment. Furthermore, Brody *et al.* (2020) noted that high EI leads to more openness in monitoring as trust is increased. Thus, given these relations between EI and the constructs making up the COSO dimensions, we have identified the following research hypothesizes:

H1. There is a positive relation between "COSO" PE and "Emotional Intelligence (EI)".

2.5.2 *Link between personality and emotional intelligence (EI)*. Alternatively, a multitude of studies have examined the relation between Personality and EI. Petrides (2010) reported that a very strong relation exists between EI and the FFM. Alternatively, Noorbakhsh *et al.* (2010) found a negative relation between EI and Neuroticism. On the other hand, Matthews *et al.* (2003) have provided proof that Circumplex of the FFM components moderated the EI. The same was affirmed by Saklofske *et al.* (2003) with respect to interpersonal functioning; Van der Zee *et al.* (2002) for emotional wellbeing, and Dawda and Hart (2000) affirmed the role of Character as a personality Circumplex of FFM. Consequently, the researchers hypothesize that:

H2. Interpersonal Functioning moderates the impact of "Emotional Intelligence" (EI) on COSO PE

H3. Emotional Wellbeing (EW) moderates the impact of the "Emotional Intelligence" (EI) on COSO PE

H4. Character moderates the impact of "Emotional Intelligence" (EI) on COSO PE

These hypotheses have led to the development of the current model investigating the relation between all the above variables which is detailed in Figure 2 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ4pZZmt3ziueKyoA?e=DWxNHH>). The following are the fundamentals adopted in the practical study which include all the knowledge gathered above in the theoretical model including the adopted research methodology.

## 3. Research methodology

In the following section, the research approach will be presented in addition to the context of the study including the steps that were taken to obtain the information and data.

### 3.1 Study context and research approach

The goal of this study is to decide whether there is a connection between EI and the perceived efficacy of "IC" in Lebanese organizations. A powerful partnership is pursued and the purpose of this study is to be able to generalize the findings to a wider community and to use



the results to forecast potential job success based on EI ratings. In order to analyze the relationship alluded to the above, it is important to establish such targets to provide a more detailed explanation about the intention and course of this analysis to decide if the relationship currently exists.

### *3.2 Measures and procedures*

For the benefit and purpose of this research, a quantitative methodology will be applied. The data was collected by the use of self-directed and pre-coded questionnaires. Questionnaires are most commonly used to test hypotheses made, making it a deductive research.

### *3.3 Population and sampling*

The population, from which the survey was taken, consists of internal auditors in companies based in Mount Lebanon and Beirut. Some received the questionnaires by e-mail while they were handed to others. This sampling method has meant that only participants with high degree of knowledge about the subject and are committed internal auditors who have high level of expertise in the study and evaluation of “internal control systems” have been selected. As mentioned in the previous work of [Abdo and Feghali \(2017\)](#), the “Lebanese Institute of Internal Auditors” (IIA) has been very helpful in providing guidance to competent respondents. The list was called by the researchers to verify their ability to cooperate in the study. From the original list of 48 persons, and with the use of snowball sampling, the members sponsor connections till the total sample size has reached 160 respondents. The companies were selected from various sizes and sectors, hence assuring the variety and representativeness of the sample in the Lebanese market to the largest achievable level.

### *3.4 Data collection*

The researchers collected data for this study by a mean of a questionnaire. It was fractured into three contexts: Personality, EI and the COSO framework. The researchers utilized the “IPIP-NEO 120” elaborated by John A. Johnson in 2014 for personality assessment, which includes 120 items measuring the five personality factors. The IPIP-NEO 120 is a publicly available representation of the FFM and is one of the most commonly used and detailed public-domain FFM personality tool ([Johnson, 2014](#)). The latter asserts that IPIP-NEO is reliable, validated and is structurally sound enough for potential use in personality assessment testing and practice. These variables shall be calculated by 24 objects (4 for each “sub-traits of personality”). Any of these variables is measured at the “five-point Likert”, which confirms the degree to which the participants exhibit the personality characteristics illustrated. The scale range is from 1 (rarely) to 5 (Always). For the EI test, the researchers would use the “Genos EI” coined by [Gignac and Palmer \(2010\)](#) which consists of 70 items spread over 7 EI factors (10 items per factor). The seven aspects discussed are: “Emotional Expression” (EE), “Emotional Self-Awareness” (ESA), “Emotional Reasoning” (ER), “Emotional Awareness of Others” (EAO), “Emotional Self-Management” (ESM), “Emotional Self-Control” (ESC) and “Emotional Management of Others” (EMO). Each of these factors is assessed at the five-point Likert, which indicates the level to which the respondent displays or reveals a specific EI trait. The scales range is from 1 (Seldom) to 5 (Always). [Palmer et al. \(2009\)](#) created Genos EI, which is publicly available and is now commonly used in research.

Finally, the researchers used the COSO framework assessment tool to measure “internal control performance”, evaluated with the aid of a “five-point Likert” scale to measure the influence of these characteristics ranging from 1 (Very Ineffective) to 5 (Very Effective). The data was analyzed using SPSS V25 and the moderation analysis was conducted with the help of PROCESS add-in. Linear regression was used to determine the validity of the model and a 95% confidence level was used to test the hypotheses.

#### 4. Findings and discussion of results

The results from the collected data revealed a myriad of findings that are outlined below. This research proved that there is a direct relation and connection between the EI of the audit team members and the PE of internal control. Four hypotheses were brought up and are all centered around this goal.

##### 4.1 *Hypothesis 1 – relation between “emotional intelligence” (EI) and “perceived effectiveness” (PE) of COSO*

The **H1** is concerned with the relation between the EI of the audit team members and the predicted efficacy of “COSO” implementation. The results reveal that there is a good and constructive relationship between the EI of the audit team and the overall PE of IC framework ( $\beta$ : 0.869;  $F$ : 474.624;  $p < 0.01$ ). The results are outlined in Tables 3 and 4 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPIV>).

As seen in Table 3 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPIV>),  $R = 0.869$  and positive co-efficiency, which is reflective of the linear relation between EI and PE. In other words, when EI increases, it generates an improvement in efficiency. On the other hand, when EI drops, it causes a reduction in efficiency. Table 4 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPIV>) shows that Sig equal zero ( $<0.05$ ), which means that the model is valid. Consequently, there is a significant relationship between the variables EI and PE of COSO. Thus, we can affirm that ANOVA’s result demonstrated through the value of  $F$  (474.624) and through Sig(0) that there is a positive relation between “COSO” PE and “EI”. Hence, **H1** is validated. The cause of the positive and significant relationship and effect of EI on auditor performance is that the auditor has a high capacity to deal with his own emotions used in everyday actions including his strive to prevent fraud (Hasanuddin and Sjahruddin, 2017).

##### 4.2 *Hypothesis 2 – moderating role of interpersonal functioning (IF) on the relation between EI and perceived effectiveness (PE) of COSO*

In the **H2**, the researchers postulate that Interpersonal Functioning (IF) moderates the impact of EI on COSO PE. The results revealed that this is correct and that, as an individual, it has a more dynamic interpersonal functioning; the impact of EI on the PE of COSO is amplified. The empirical findings also confirmed that Interpersonal Functioning (IF) positively moderates the relation between EI and PE. The moderation test shows that PE is positively predicted by EI and IF ( $R^2 = 0.6366$ ). In addition, the interaction between EI and IF (i.e. the Moderation) is also high and sizeable and adds to the model’s strength ( $R^2\Delta = 0.4006$ ) thus increasing the ability of the model to predict the effectiveness of COSO by 40.06%. The results also show that the moderating role of IF is both significant and sizeable ( $\beta$ : 0.0708;  $p$ : 0.0105). These are presented in Table 5 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPIV>). This indicates that as auditors have a more dynamic interpersonal functioning style, they are more prone to increase the positive impact of EI of the audit team members on the overall effectiveness of “COSO internal control”. Therefore, **Hypothesis 2** is supported by the empirical results and thus has been accepted.

##### 4.3 *Hypothesis 3 – moderating role of emotional wellbeing (EW) on the relation between “emotional intelligence” (EI) and perceived effectiveness (PE) of COSO*

In the **H3**, the researchers postulate that the Emotional Wellbeing (EW) moderates the impact of EI on COSO PE. The results revealed that this is the case, and the more an individual is stable emotionally, the impact of EI on the PE of COSO is amplified. The Empirical findings



also confirmed that EW positively moderates the relation between EI and PE. The moderation test shows that PE is positively predicted by EI and EW ( $R^2 = 0.6893$ ). In addition, the interaction between EI and EW (i.e. the Moderation) is also high and sizeable and adds to the model's strength ( $R^2\Delta = 0.2160$ ) thus increasing the ability of the model to predict the effectiveness of COSO by 21.6%. The results also show that the moderating role of EW is significant and sizeable at the same time ( $\beta: 0.134; p: 0.0034$ ). These are presented in Table 6 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPIV>). This indicates that the more auditors are emotionally stable, the more they are prone to increase the positive impact of EI of the Audit team members on the overall effectiveness of COSO internal control. Therefore, **Hypothesis 3** is supported by the empirical results and thus has been accepted.

#### 4.4 *Hypothesis 4 – moderating role of character (CH) on the relation between “emotional intelligence” (EI) and perceived effectiveness (PE) of COSO*

In the **H4**, the researchers postulate that Character (CH) moderates the impact of EI on COSO PE. The results revealed that this is true and when an individual has a more agreeable and proactive character, the impact of EI on the PE of COSO is amplified. The Empirical findings also confirmed that Character (CH) positively moderates the relation between EI and PE. The moderation test shows that PE is positively predicted by EI and CH ( $R^2 = 0.6490$ ). In addition, the interaction between EI and CH is also high and sizeable and adds to the model's strength ( $R^2\Delta = 0.0632$ ), thus increasing the ability of the model to predict the effectiveness of COSO by 6.32%. The results also show that the moderating role of CH is both significant and sizeable ( $\beta: 0.0357; p: 0.0024$ ). These are presented in Table 7 (available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ5oSVWhcuSipljcg?e=NbSPIV>). This indicates that the more auditors possess an open character and are being agreeable, they are more prone to increase the positive impact of EI of the Audit team members on the overall effectiveness of COSO internal control. Therefore, **Hypothesis 4** is supported by the empirical results and thus has been accepted. By monitoring, analyzing and assessing the risks and controls of the firm, internal audits ensure the latter is able to function in a dynamic market climate which achieved by tracking, reviewing and evaluating the firm risks and controls.

### 5. Structural equation model

The multi-group analysis carried out using the overall structural model made it possible to identify a new model (Figure 3, available online at: <https://1drv.ms/w/s!AndmX1sukvvQgYZ4pZZmt3ziueKyoA?e=DWxNHH>) linking the various constitutive and explanatory variables of the Overall IC Effectiveness. With 0.894, the GoF (Goodness of Fit) index is very close to the recommended threshold of 0.9 and is therefore considered satisfactory. As the PLS method is based on the measurement model, it is necessary to ensure the good validity and reliability of the measurement instruments. Subsequently, we conclude the good validity of the measurement scales and the relationships between the items comprising the explanatory variables (all indices > 0.5). Unidimensionality is also verified since no covariance exists between the variables (inter-variable indices < 0.5). Therefore, the measurement model is of a good quality.

### 6. Practical and social implications

The practical implication of studying EI and Personality in Lebanese firms is to understand how it affects the effectiveness of IC and thus the survival of the organization, who once are aware of such a strong impact, they will try to increase their maturity level in this regard and do more efforts in tackling EI aspect which has a considerable impact on audit quality. One

will not be able to employ their ultimate cognitive talents unless they have EI, because it creates the opportunity for an auditor to examine, for it creates positive motivation, self-control, empathy, and social skills (Kusuma and Sukirman, 2017). On the other hand, the subject of this study consists of many human related aspects such as personality and human behavior. Once these elements are combined with the IC framework, it will have an added value at the social level by enhancing the behavior of people and their perception of others' and one self's emotions, in addition to improving their performance which reflects on enhancing the overall organizational performance. The team will be stronger when the internal audit department applies EI concepts which can assist auditors in establishing and maintaining strong and productive connections within the company (Jacka, 2018).

## 7. Conclusion

As a result, EI of the audit team members is a good predictor of the PE of internal control since based on our analysis and as our results show, when EI increases, it generates an improvement in efficiency. On the other hand, when EI drops, it causes a reduction in efficiency. The cause of the positive and significant relationship and effect of EI on auditor performance is that the auditor has a high capacity to regularly deal with his own emotions. This means when the audit team of the organization possesses higher levels of EI, it is able to better understand and manage human relations at the workplace, thus leading to an improvement in the control environment and especially communication. Consequently, this can be seen as fostering an environment where more trust is prevailing thus leading to higher PE of IC.

The findings have shown that the personality traits of the members of the audit team play a key role in cultivating a control climate that is more conducive to effective control. Moreover, personality traits were key in boosting trust and openness in communication that can be seen as antecedents to having a system where all key auditing professionals within the organization can cooperate to boost the effectiveness of the IC framework. These personality traits of the audit team member also play a key role in amplifying the impact of the audit manager EI on the overall effectiveness of the COSO framework, and thus leading to improved efficiency of IC.

It shall be acknowledged that the exploratory aspect of this study has shown results that are very general but create a basis for future comprehensive researches. Moreover, this study was limited to a relatively small sample, due to Lebanon small size and due to the Pandemic, that has somehow limited our data access. Furthermore, this research did not regulate other relevant variables such as gender, experience, educational level and age. Nevertheless, the importance of the findings is that they ascertain that IC is not only a rigid technical function that is primarily concerned with the accounting and financial discipline, but rather it extends to areas related to organizational psychology and organizational behavior, which makes the field of IC multidisciplinary.

Future studies will benefit from this analysis while using a larger sample. Imminent work should aim to include not only auditors but the entirety of the firm staff. Further research is required to decide on the generalization of the results across various positions and industries and to determine whether EI is the only influential aspect involving a significant number of social interactions.

## References

- Abdo, M. (2014), "Implementation of COSO framework in Lebanon from an internal control perspective", M2 Thesis presented to the UL, Faculty of Economic Sciences and Business Administration.

- Abdo, M. and Feghali, K. (2017), "COSO implementation in Lebanese firms: the impact of organizational culture and leadership value competency on perceived internal control efficiency - an exploratory approach", *Middle East Journal of Management*, Vol. 4 No. 2, p. 150, doi: [10.1504/mejm.2017.084969](https://doi.org/10.1504/mejm.2017.084969).
- Abzari, M., Shahin, A. and Abasaltian, A. (2014), "Developing a conceptual framework for knowledge sharing behavior by considering emotional, social and cognitive intelligence competencies", *Kuwait Chapter of Arabian Journal of Business and Management Review*, Vol. 4 No. 1, pp. 230-241, doi: [10.12816/0018907](https://doi.org/10.12816/0018907).
- Arena, M. and Azzone, G. (2009), "Identifying organizational drivers of internal audit effectiveness", *International Journal of Auditing*, Vol. 13 No. 1, pp. 43-60, doi: [10.1111/j.1099-1123.2008.00392.x](https://doi.org/10.1111/j.1099-1123.2008.00392.x).
- Baczynska, A. and Rowinski, T. (2020), "Personality, analytical, and emotional intelligence among top and middle managers", *Central European Management Journal*, Vol. 28 No. 2, pp. 2-15, doi: [10.7206/cemj.2658-0845.19](https://doi.org/10.7206/cemj.2658-0845.19).
- Bar-On, R. (1997), *BarOn Emotional Quotient Inventory (EQ-I): A Test of Emotional Intelligence*, Multi-health systems, Toronto.
- Brody, R.G., Gupta, G. and Salter, S.B. (2020), "The influence of emotional intelligence on auditor performance", *Journal of Accounting and Management Information Systems*, Vol. 19 No. 3, doi: [10.24818/jamis.2020.03005](https://doi.org/10.24818/jamis.2020.03005).
- Cattell, R.B. (1943), "The description of personality: basic traits resolved into clusters", *The Journal of Abnormal and Social Psychology*, Vol. 38 No. 4, pp. 476-506, doi: [10.1037/h0054116](https://doi.org/10.1037/h0054116).
- Cattell, R.B. (1945), "The description of personality: principles and findings in a factor Analysis", *The American Journal of Psychology*, Vol. 58 No. 1, p. 69, doi: [10.2307/1417576](https://doi.org/10.2307/1417576).
- Cattell, R.B. (1971), *Abilities: Their Structure, Growth, and Action*, Houghton Mifflin, Boston, ISBN: 0-395-04275-5.
- COSO (1994), *Internal Control-Integrated Framework*, Committee of Sponsoring Organizations of the Treadway Commission, Coopers and Lybrand, New York, NY.
- COSO (2013), *Internal Control Integrated Framework 2013*, Committee of Sponsoring Organizations of the Treadway Commission, Coopers and Lybrand, New York, NY.
- Costa, P.T. and McCrae, R.R. (1992), "Normal personality assessment in clinical practice: the NEO Personality Inventory", *Psychological Assessment*, Vol. 4 No. 1, pp. 5-13, doi: [10.1037/1040-3590.4.1.5](https://doi.org/10.1037/1040-3590.4.1.5).
- Dawda, D. and Hart, S.D. (2000), "Assessing emotional intelligence: reliability and validity of the Bar-On emotional quotient inventory (EQ-i) in university students", *Personality and Individual Differences*, Vol. 28 No. 4, pp. 797-812, doi: [10.1016/s0191-8869\(99\)00139-7](https://doi.org/10.1016/s0191-8869(99)00139-7).
- Dewi, N.P.R.A. and Ramantha, I.W. (2019), "Effect of conflict and unclear role on auditor performance with emotional quotient as moderating variable", *International Journal of Social Sciences and Humanities*, Vol. 3 No. 3, pp. 50-59, doi: [10.29332/ijssh.v3n3.350](https://doi.org/10.29332/ijssh.v3n3.350).
- Dhliwayo, P. and Coetzee, M. (2020), "Cognitive intelligence, emotional intelligence and personality types as predictors of job performance: exploring a model for personnel selection", *SA Journal of Human Resource Management*, Vol. 18, doi: [10.4102/sajhrm.v18i0.1348](https://doi.org/10.4102/sajhrm.v18i0.1348).
- Gardner, H. (1983), *Frames of Mind: the Theory of Multiple Intelligences*, Basic Books, New York, NY, doi: [10.1002/pam.4050030422](https://doi.org/10.1002/pam.4050030422).
- Gignac, G. and Palmer, B. (2010), "Seven-factor model of emotional intelligence as measured by Genos EI", *European Journal of Psychological Assessment*, Vol. 26 No. 4, pp. 309-316, doi: [10.1027/1015-5759/a000041](https://doi.org/10.1027/1015-5759/a000041).
- Goodwin, J. (2003), "The relationship between the audit committee and the internal audit function: evidence from Australia and New Zealand", *International Journal of Auditing*, Vol. 7 No. 3, pp. 263-278, doi: [10.1046/j.1099-1123.2003.00074.x](https://doi.org/10.1046/j.1099-1123.2003.00074.x).

- Hasanuddin, R. and Sjahruddin, H. (2017), "The structure of emotional intelligence, spiritual intelligence and its relationship with work enthusiasm and auditor performance", *World Journal of Business and Management*, Vol. 3 No. 1, p. 67, doi: [10.5296/wjbm.v3i1.11321](https://doi.org/10.5296/wjbm.v3i1.11321).
- Hassan, M. (2016), "Emotional intelligence as a predictor of organizational commitment among college teachers", *European Journal of Social Sciences Studies*, Vol. 1 No. 1, pp. 41-64, doi: [10.46827/ejsss.v0i0.3](https://doi.org/10.46827/ejsss.v0i0.3).
- Ittonen, K. (2010), "Investor reactions to disclosures of material internal control weaknesses", *Managerial Auditing Journal*, Vol. 25 No. 3, pp. 259-268, doi: [10.1108/02686901011026350](https://doi.org/10.1108/02686901011026350).
- Jacka, J.M. (2018), "How's your EQ? Emotional intelligence can help auditors build and maintain positive, productive relationships throughout the organization", *Internal Auditor*, Vol. 75 No. 1, pp. 36-41, ISSN 0020-5745.
- Johnsi, S. and Sunitha, K. (2019), "Impact of personality and emotional intelligence on investor behaviour", *SDMIMD Journal of Management*, Vol. 10 No. 1, pp. 21-29, doi: [10.18311/sdmimd/2019/23182](https://doi.org/10.18311/sdmimd/2019/23182).
- Johnson, J.A. (2014), "Measuring thirty facets of the five factor model with a 120-item public domain inventory: development of the IPIP-NEO-120", *Journal of Research in Personality*, Vol. 51, pp. 78-89, doi: [10.1016/j.jrp.2014.05.003](https://doi.org/10.1016/j.jrp.2014.05.003).
- Karkoulouian, S., Harake, N.A. and Messarra, L.C. (2010), "Correlates of organizational commitment and knowledge sharing via emotional intelligence: an empirical investigation", *The Business Review*, Vol. 15 No. 1, pp. 89-96.
- Kusuma, S.P. and Sukirman, S. (2017), "The effect of emotional intelligence and auditor's experience on audit quality with independence as a moderating variable", *Accounting Analysis Journal*, Vol. 6 No. 3, pp. 128-137, doi: [10.15294/aa.v6i3.18218](https://doi.org/10.15294/aa.v6i3.18218).
- Matthews, G., Zeidner, M. and Roberts, R.D. (2003), *Emotional Intelligence: Science and Myth*, The MIT Press, Cambridge, MA, ISBN: -10: 0262134187, -13: 978-0262134187.
- Noorbakhsh, S.N., Besharat, M.A. and Zarei, J. (2010), "Emotional intelligence and coping styles with stress", *Procedia - Social and Behavioral Sciences*, Vol. 5, pp. 818-822, doi: [10.1016/j.sbspro.2010.07.191](https://doi.org/10.1016/j.sbspro.2010.07.191).
- Norman, W.T. (1967), *2800 Personality Trait Descriptors- Normative Operating Characteristics for A University Population*, Department of Psychology, University of Michigan, Ann Arbor.
- Palmer, B.R., Stough, C., Harmer, R. and Gignac, G. (2009), "The Genos emotional intelligence inventory: a measure designed specifically for workplace applications", in Stough, C., Saklofske, D.H. and Parker, J.D.A. (Eds), *Assessing Emotional Intelligence: Theory, Research, and Applications*, Springer Science + Business Media, pp. 103-116, doi: [10.1007/978-0-387-88370-0\\_6](https://doi.org/10.1007/978-0-387-88370-0_6).
- Petra, S.T. and Loukatos, G. (2009), "The Sarbanes-Oxley Act of 2002: a five-year retrospective", *Corporate Governance: The International Journal of Business in Society*, Vol. 9 No. 2, pp. 120-132, doi: [10.1108/14720700910946578](https://doi.org/10.1108/14720700910946578).
- Petrides, K. (2010), "Trait emotional intelligence theory", *Industrial and Organizational Psychology*, Vol. 3 No. 2, pp. 136-139, doi: [10.1111/j.1754-9434.2010.01213.x](https://doi.org/10.1111/j.1754-9434.2010.01213.x).
- Pfister, J.A. (2009), *Managing Organizational Culture for Effective Internal Control: from Practice to Theory*, Springer Science & Business MediaSpringer Physica-Verlag, Dordrecht, ISBN: 978-3-7908-2340-0.
- Piedmont, R.L. (1998), "The Plenum series in social/clinical psychology", *The Revised NEO Personality Inventory: Clinical and Research Applications*, Plenum Press, ISBN 978-1-4899-3588-5.
- Saklofske, D.H., Austin, E.J. and Minski, P.S. (2003), "Factor structure and validity of a trait emotional intelligence measure", *Personality and Individual Differences*, Vol. 34 No. 4, pp. 707-721, doi: [10.1016/s0191-8869\(02\)00056-9](https://doi.org/10.1016/s0191-8869(02)00056-9).
- Salovey, P. and Mayer, J.D. (1990), "Emotional intelligence", *Imagination, Cognition and Personality*, Vol. 9 No. 3, pp. 185-211, doi: [10.2190/dugg-p24e-52wk-6cdg](https://doi.org/10.2190/dugg-p24e-52wk-6cdg).

- 
- Schulte, M.J., Ree, M.J. and Carretta, T.R. (2004), "Emotional intelligence: not much more than g and personality", *Personality and Individual Differences*, Elsevier, Vol. 37 No. 5, pp. 1059-1068, doi: [10.1016/j.paid.2003.11.014](https://doi.org/10.1016/j.paid.2003.11.014).
- Spira, L.F. and Page, M. (2003), "Risk management: the reinvention of internal control and the changing role of internal audit", *Accounting, Auditing and Accountability Journal*, Vol. 16 No. 4, pp. 640-661, doi: [10.1108/09513570310492335](https://doi.org/10.1108/09513570310492335).
- Van der Zee, K., Thijs, M. and Schakel, L. (2002), "The relationship of emotional intelligence with academic intelligence and the Big Five", *European Journal of Personality*, Vol. 16 No. 2, pp. 103-125, doi: [10.1002/per.434](https://doi.org/10.1002/per.434).
- Yang, L., Brink, A.G. and Wier, B. (2017), "The impact of emotional intelligence on auditor judgment", *International Journal of Auditing*, Vol. 22 No. 1, pp. 83-97, doi: [10.1111/ijau.12106](https://doi.org/10.1111/ijau.12106).

### About the authors

Manale Abdo is member of the Lebanese Association of Certified Public Accountants (LACPA). She is a Lecturer at the Lebanese University, Faculty of Economics and Business Administration in the Accounting and Auditing Department, since 2007. She earned a professional and research master's in Business Administration from Lebanese University, Beirut, and is preparing her PhD at the Lebanese University.

Dr Khalil Feghali is a professor and a former dean at the Lebanese University, Faculty of Economics and Business Administration. He attained his PhD in Business Administration from the University of Bordeaux IV in finance and accounting. He published books and many papers in international and local journals on Finance, Accounting and Auditing.

Dr. Mona Akram Zgheib has more than 25 years of professional experience in several industries among which are banking, aviation and executive training. In addition, she has more than 12 years of teaching experience in the top universities in Lebanon (AUB, LAU, Lebanese University and others). Dr. Zoughaib has a Computer Science degree from LAU (1993), MBA from LAU (2005) and PhD in MIS from Paris Descartes – Paris V (2009), and she is PMP certified among other Microsoft certifications. She was a banker for more than 18 years from Arab Bank (11 years) as section head/IT development unit to Fransabank (5 years) as head of IT project management and Quality Assurance, and later joined Byblos Bank (+2.5 years) as senior program manager. The last position that Mona held is "head of project management office PMO" and "Advisor to the CIO" at Middle East Airlines – MEA for three years and a half. Mona is currently the co-founder and General Manager of "We Grow Minds" a startup which main business is training, consultancy and event planning. Mona has more than 5 years of mentoring and executive training experience where she took many roles as a Senior Business and Technical consultant giving workshops and trainer for executives in different Arab countries: PMI Region 12 meetings: Dubai, National Bank of Kuwait (NBK): Kuwait and others. Mona is an Ex-Vice President/Board member Director of Marketing at the Project Management institute–Lebanon chapter and was elected for two consecutive terms (5 years) for the same position. She was invited several times as a guest speaker at AUB, Rotaract Lebanon, Makesense, and was a panelist with Oracle at the yearly international CIO Committee – Lebanon at Middle East Airlines at Riad Salameh Ballroom discussing several themes related to the domains of Project Management, MIS, and HR Analytics. Mona Akram Zgheib is the corresponding author and can be contacted at: [mzghaib@gmail.com](mailto:mzghaib@gmail.com)