Effect of organisational culture on organisational performance – the case of security sector

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Abstract: Today's business world is characterised by its constant rapidly changing environment, facing a very competitive economic context, making it crucial for the achievement of business success to understand, timely, what drives its results, namely its performance. Organisational performance may be affected by several numbers of variables and the understanding of these variables is decisive for business management. This research aims to address and measure organisational performance, understanding if and how much it is influenced by organisational culture, as well as if employee work engagement mediates the mentioned relationship. This is accomplished through the formulation and testing of our research question and respective sub research questions. For that purpose we applied a questionnaire, preceded by a pre-test procedure, to a sample composed by security professionals, receiving a total of 629 valid answers. Our results evidence that more than one organisational culture type positively and significantly influences both organisational performance and employee work engagement, as well as that employee work engagement partially mediates the influence of all organisational culture types on organisational performance.

Keywords: organisational culture; organisational performance; employee work engagement; security.

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1   Introduction

Business researchers have been paying increasing attention to the understanding of what characteristics influence the general outcomes of an organisation (Zheng et al., 2010), and, in fact, the relationship of effectiveness related outcomes and organisational culture "is relatively well established in the literature" (Gregory et al., 2009), making it's understanding an important prerogative when it comes to comprehend and practice business management.

The private security sector has a growing spectrum of intervention and for example, in some European countries "employs more staff than the public police" [Button, (2007), p.110], meaning that it is crucial to understand what drives employees performance, namely because it may have a significant impact in our families and businesses lives.

This research may have great importance on understanding the outcome of security prosecution activities, which are of great importance because "one of the factors most

important to achieving global competitiveness is good-quality security management" [Lee et al, (2019b), p.1151], we seek to understand the impact that organisational culture has on organisational performance and if and how many employees work engagement mediates that relationship.

2 Literature review

The literature review of the concepts of this research will be conducted by addressing its main topics. It is essential for the depth understanding of state-of-the-art research on its topics and to get to know where is the scientific research limit through the analysis of literature that is "valid, reliable and repeatable" [Xiao and Watson, (2017), p.1]. This literature review goal is to get a picture of that limit, creating conditions to go one step beyond it.

2.1 Organisational culture

The first insights on organisational culture promised to build understanding regarding the way that organisations operate and succeed in their businesses (O'Reilly et al., 2014), which makes it a crucial factor when it comes to understanding organisations (De Witte and Van Muijen, 1999).

The definition of organisational culture is not consensual (Linnenluecke and Griffiths, 2010) although it is clear that it can operate in favour of or against the organisation's interests (Warrick, 2017). Although many studies positively correlate organisational cultures with employee attitudes and relationship skills, comparatively less approach the direct linkage of organisational culture with business outcomes (Beugelsdijk et al., 2006; O'Reilly et al., 2014).

We found very comprehensible the framework introduced by Detert et al. (2000) as a consequence of the significant analysis of existent literature on organisational culture, which finds common ground in existent definitions for considering that practices, values, beliefs and underlying assumptions on what is appropriate behaviour, combined, shape the concept of organisational culture.

Schein (2010) proposed that organisational culture can be examined through the analysis of different existence levels. This approach is one of the most quoted models as well as these levels, aggregated, compose the organisational culture of any organisation:

a   *Level one: artefacts:* artefacts are the exposed rituals, language, myths, and other forms of something that can be immediately felt by outsiders or newcomers. However, behaviour analysis shall occur in a deeper organisational culture level of analysis, namely the "espoused beliefs and values" level.

b   *Level two: espoused beliefs and values:* these values are seen as the reason for the existence of the facts observed within the level of the artefact. Although these values may fail to describe the actual and real organisation, they provide secure guidance for how to deal with the unexpected (Schneider et al., 2013). The espoused beliefs and values can be defined as the "organization's official viewpoints" [Solms and Niekerk, (2010), p.478].

c   Level three: Underlying assumptions. These assumptions are not observable or easily identifiable, as they tend to be formed in the early years of the organisation and emerge from values. Underlying assumptions can be defined as the inner circle of organisational culture, as these are constructs built upon beliefs and values.

The idea that results, achievements, success, and effectiveness, are related to organisational culture was the first step in making organisational culture such a central management topic. It's within this frame of ideas that Quinn and Rohrbaugh (1983) published the work that would set "Competing Values Framework" as one of the greatest references in management research, and has been widely used, and validated, within highly recognised academic publications to describe organisational culture (Hartnell et al., 2011; Lee et al., 2016).

The "Competing Values Framework" has two axes of competing values that cover the principal discussions found in the organisational literature regarding organisational culture and its impact on effectiveness [Cameron and Quinn, (2006), pp.33–34]. The organisation characterisation in terms of the referred cultural types shall describe it as belonging to one of four possible quadrants of cultural types, namely clan culture, adhocracy culture, hierarchy culture, and market culture, although, organisations incorporate, always, a mix of different types of cultures, that are present in the organisation, although "usually one type is more dominant than the others" [Skerlavaj et al., (2007), p.348].

Figure 1   The competing values framework
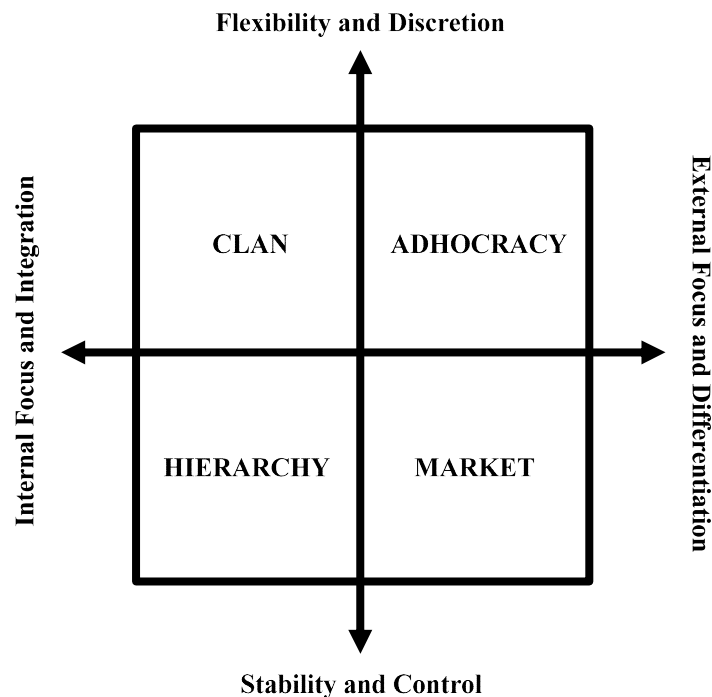
Source: Cameron and Quinn (2006, p.35)

The 'competing values framework' characterises organisational culture according to the relatable effectiveness criteria. These organisational culture types have distinct associated effectiveness criteria, namely clan culture stands for 'employee satisfaction and commitment', adhocracy culture stands for 'innovation', hierarchy culture stands for 'efficiency, timeliness, and smooth functioning', and market culture stands for "Increased market share, profit, product quality, and productivity" [Hartnell et al., (2011), p.679].

2.2 Organisational performance

Organisational performance is considered as a "fundamental construct in strategic management" [Hamann et al., (2013), p.67]. In fact, due to the immensely fast-changing pace that organisations and businesses face, organisations tend to put their best efforts to achieve high performance to attain outcomes such as financial success or economic survival. In this framework, it is important to address the fact that along with the growing complexity of businesses and its environment, the analysis criteria of performance had to, naturally, expand its coverage (Valmohammadi and Roshanzamir, 2015).

Organisational performance has major importance when it comes to assessing business-related success, but constructs, measurements, instruments, and even concepts vary depending on a range of contextual perspectives.

For a holistic and deeper understanding of its concept, we purpose to measure organisational performance on a non-exclusively financial point of view, providing the content and spirit for understanding the concept and the importance of organisational performance. Curiously it happens that when it comes to understanding organisational performance financial outcomes are not, at all, the main analysis dimension (Carter and Greer, 2013; Morrow and McElroy, 2007). Surprisingly, this vision is even subscribed to accounting-related scientific researches (Vaivio, 1999).

A core finding of perceived organisational performance is that a substantive amount of produced research reveals that perceptual inferences on organisational performance are moderate to strongly correlated with objective measures of organisational performance (Delaney and Huselid, 1996; Harris and Ogbonna, 2001; Lee et al., 2019a; Park et al., 2015).

Given the above described theoretical framework, as well as its purpose, organisational performance may be described as a metric of accumulated results that converge to the achievement of the organisation's goals (Ho, 2008; Valmohammadi and Roshanzamir, 2015).

2.3 Employee work engagement

Employee work engagement is part of the role of key concepts that may lead an organisation to success and competitiveness, and its foundations were based on the potential that employee work engagement has to boost performance (Gruman and Saks, 2011).

For this research and with the objective of clearly define our scope of analysis, we adopt the term 'employee work engagement', following the steps of Breevaart et al. (2014), Hsieh and Wang (2015) and Tims et al. (2011).

To give the appropriate framework for employee work engagement conceptualisation, it is important to address the fact that existing literature finds common ground in the notion that highly engaged employees present high levels of energetic behaviour (vigour), as well as an emotional (dedication) and cognitive (absorption) relationship with their work (Schaufeli and Bakker, 2004).

Employee work engagement is not limited to a particular event or behaviour, by the contrary, it is a progressively desirably deeper emotional and cognitive state (Schaufeli et al., 2002b), which can be defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" [Schaufeli et al., (2002b), p.74].

2.4   Security sector

It's increasingly evident that security breaches may cause severe disruptions in our lives and our businesses and every organisation is exposed to risks (Torabi et al., 2016). As risks cannot be fully eliminated (Krahmann, 2011), businesses often and increasingly seek for private security service providers (Dorn and Levi, 2007) as specialised partners which core business is to help mitigate others risks, namely in the spirit of the principles that north the contraction of services in an outsourcing regime, through trusting non-core competencies to specialised companies. As in other sectors, private security companies expanded "by responding to a series of fluctuations in the laws of supply and demand" [White, (2011), pp.96–97].

Unlike what is observed in all around the world, in Europe generally police effective outnumber private security officers and Portugal is no exception (Button and Stiernstedt, 2018). Meanwhile, private security officers are outnumbered by a minimal percentage concerning public security effectiveness.

This position reinforces that today businesses rely on the security of its critical assets to private companies, and, therefore society tends to increasingly rely on these services. Said that understanding private security guard's performance is a subject of the greatest social and economic relevance.

3   Research methodology

In the spirit of the topic of this research, which aims to, mainly, establish a scientific relationship between organisational culture and a desirable outcome, in case, positive performance, it is crucial to address the importance of our question, once it is what motivates "readers to be more engaged with the material" [Bartunek et al., (2006), p.10]. As important we mean value for the management practitioners and researchers' community, which, as before mentioned, we strongly believe it is.

The research question that drives the conduction of this research is:

- Do organisational culture types influence organisational performance and are this influence mediated by employee work engagement?

In order to validate this research question, we purpose to evaluate the validity of the four proposed sub research questions, which are duly described in the proposed research model and are theoretically framed in order to address its academic validity and relevance. Due to the amplitude of the concepts object of this research and the degree of subjectivity associated with our measurement instruments, we opt, within a framework of intellectual integrity, to set our sub research questions on a more exploratory level than a regular hypothesis testing framework (Bettis et al., 2014).

The research model adopted may be contextualised through the following figure:

Figure 2 Dissertation's research model
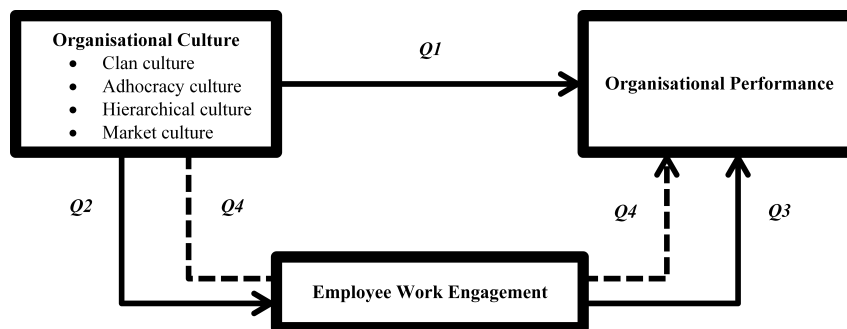
Source: The author (2019)

3.1 *Organisational culture and organisational performance*

Organisational culture is identified as an important component of organisational security management (Lee et al., 2019b), which comprises the direct outcome of the service provider of security personnel. To understand how to potentiate the outcome of security personnel, it is of particular interest to understand the effect of organisational culture on organisational performance (which is affected by the outcome).

Previous researches concluded the existence of a significant relationship between organisational culture and organisational performance (Zheng et al., 2010), as well as that "most scholars and observers now, recognize that organizational culture has a powerful effect on the performance and long-term effectiveness of organizations" [Valmohammadi and Roshanzamir, (2015), p.170], as "cultures are important determinants of firm performance" [O'Reilly et al., (2014), p.596].

Existent literature describes that organisational culture affects directly organisational performance (Gregory et al., 2009; Lau and Ngo, 2004; Naor et al., 2010), as well as points organisational culture as a crucial concept to consider within the future analysis of performance frameworks (Perry-Smith and Blum, 2000). Said that it's of crucial importance to managerial practice and security improvement to understand the validity of the following:

Q1 One or more organisational culture types positively and significantly influence organisational performance (revenue growth, profit generation or cost reduction).

3.2   *Organisational culture and employee work engagement*

Employee work engagement effective contributes to revenue growth, productivity, employee retention, and customer satisfaction (Harter et al., 2002), as well as customer loyalty (Salanova et al., 2005), employee performance (Medlin and Green, 2009; Salanova et al., 2005). It is also found to be effective in reducing turnover intention (Schaufeli and Bakker, 2004), and employee burnout (Schaufeli et al., 2002b, 2006).

Based on the above arguments, which point to positive influence on employee work engagements of subjects that according to literature have a significant impact on organisational culture, given the importance of this relationship for a comprehensive understanding of our research model, we propose to validate if:

Q2   One or more organisational culture types positively and significantly influence employee work engagement (loyalty, absenteeism, productivity).

3.3   *Employee work engagement and organisational performance*

The impact of employees on organisational performance is a subject duly addressed in academic researches (Delaney and Huselid, 1996) and previous studies regarding employee work engagement establish the high relevance of this concept when it comes to studying organisational outcomes (Bakker and Schaufeli, 2008).

Integrative approaches to employee work engagement and organisational performance concepts can be often found in the literature (Medlin and Green, 2009; Salanova et al., 2005) as well as positive correlations between these concepts (Bakker and Bal, 2010; Bakker et al., 2004).

The fact that employee work engagement leads to enhanced performance is "supported by a growing number of studies demonstrating a positive relationship between engagement and individual performance" [Gruman and Saks, (2011), p.133], meaning that in high levels of organisational performance high levels of employee work engagement shall be identified.

Considering the importance of this relationship for a comprehensive understanding of our research model, we propose to verify the validity of the following sub research question:

Q3   Employee work engagement positively and significantly influences organisational performance.

3.4   *Organisational culture, organisational performance, and employee work engagement*

This tripartite relationship of concepts has been studied before (Mehrzi and Singh, 2016; Rofcanin et al., 2017). A high level of employee work engagement delivers results that outcome the organisation's expectations (Harter et al., 2002), meaning that it is of great relevance to understanding how employee work engagement affects the relationship between organisational culture and organisational performance. Therefore, we purpose ourselves to address if:

Q4   The influence of all organisational culture types in organisational performance is mediated by the level of employee work engagement.

4 Methodology

4.1 Data collection method

Scientific researches shall base its conclusions on theoretically based propositions regarding a determined sample, which can only be achieved through the usage of data "from a sample of individuals to make some inference about the wider population" [Kelley et al., (2003), p.261]. Within this context, we will opt for the usage of a questionnaire to collect data relatable to our research model.

Given the existence of time and resources constraints, we used a non-probabilistic sample, and the questionnaire was distributed through its publication and publicisation in social networks and dissemination to professionals and companies' representative bodies.

From the 1,380 participants that responded to our questionnaire, only 629 participants answered all the questionnaire questions and therefore only these are considered as valid for further analysis. All the statistics and analysis were calculated using the SPSS Statistical Package for the Social Sciences tool, version 26.0 using Windows 10 platform.

4.2 Pre-test procedure

Immediately before the publicisation of the questionnaires, we conducted a pre-test validation of the questionnaire to discover format or content errors, ensuring that the final questionnaire is the best possible version of itself (Nichols and Childs, 2009). We applied the purposed questionnaire to a sample of 11 participants, resulting in the following adaptations:

- The introductory question of the instrument used to assess organisational culture was developed to clarify the respondents of what are these questions intentions in terms of positioning of both the respondent and the organisation.

- The classification scale of answers in the web-based questionnaire only appeared once in the head of the question. As questions have up to 16 items, respondents suggested that the information regarding the applicable classification of answers should be repeated in the middle of the question, which was done in accordance.

- The original instrument used to assess organisational performance, in its original format, intends to evaluate the perception of employees regarding a whole spectrum of corporative dimensions. For example, it aims to assess employee's perceptions regarding the organisation's commercial assets, such as services, products, and programs, as well as assess the satisfaction of both business-to-business and business-to-costumer end users. Therefore, we adapted this questionnaire to fit the object of study, namely security personnel working in private security companies.

4.3 Sample design

Our sample is constituted by 629 participants, which makes this the biggest sample of Portuguese private security personnel ever researched. The sociodemographic characterisation of our sample is described in the following table:

Table 1   Summary of the sample's sociodemographic characterisation

Sociodemographic profile of participants	Number of answers	Percentage (%)
Gender		
Male	541	86,01%
Female	88	13,99%
Function		
Security guard	602	95,71%
Security coordinator	15	2,38%
Security director	12	1,91%
Age		
Between 20 and 30 years old	101	16,06%
Between 31 and 40 years old	197	31,32%
Between 41 and 50 years old	231	36,72%
Between 51 and 65 years old	100	15,90%
Education		
Basic education	72	11,45%
Secondary education	501	79,65%
Bachelor's degree	44	7,00%
Master's degree	10	1,59%
Doctoral degree	2	0,32%
Professional experience		
Less than 1 year	9	1,43%
Between 1 and 10 years	248	39,43%
Between 11 and 20 years	281	44,67%
Between 21 and 30 years	72	11,45%
More than 30 years	19	3,02%

Source: The author (2019)

4.4   Measurement instruments

We built up a questionnaire composed of 37 items. 16 items aim to measure and characterise organisational culture, 9 items aim to measure and characterise employee work engagement, 7 items aim to address organisational performance, and the remain 5 items aim to socio-demographically characterise the participant's sample.

The decision regarding the methodology and the research design (survey/questionnaire and correlation/regression analysis) was chosen based in the convenience access to a huge amount of professional persons that work in the field and in particular the access to network groups from that companies. This kind of research strategy could represent some limitations, regarding the final validation and the contradictory analysis, so the findings are considered not as definitive but clearly as very good contribution.

4.4.1 Organisational culture – first organisational culture unified search

The assessment of organisational culture has been applied before to specific professional classes, such as project management practitioners (Yazici, 2009). One transversal certainty that arises from past research is that "individuals are the enablers, the makers of the organization and its culture" [De Witte and Van Muijen, (1999), 591] therefore it's natural to centre the organisation culture analysis on the individuals' level.

The selected instrument to assess organisational culture is the 'first organisational culture unified search questionnaire', thereafter, referred to as 'FOCUS'. FOCUS questionnaire (Van Muijen et al., 1999), finds its theoretical framework within the previously addressed 'competing values framework'.

This will allow this research to perform what De Witte and Van Muijen (1999) defined as an organisational culture total analysis type, as it analyses person-level organisational culture, not considering as analysis variables the ones related to organisational membership.

The selection of the FOCUS questionnaire is based upon the fact that it reproduces the structures that frame the competing values framework concepts, which is of great relevance since, as seen, this theory is consensually effective in assessing and characterising organisational culture.

For this research we will use a 16 items questionnaire based on FOCUS, therefore a shortened version, developed and adapted to the Portuguese population by José Gonçalves das Neves.

Within this questionnaire, all culture types present acceptable values for item-scale correlations, and when it comes to addressing the reliability level of the studied culture types, we concluded that clan culture ($\alpha = .857$), hierarchy culture ($\alpha = .838$), market culture ($\alpha = .820$) and adhocracy culture ($\alpha = .679$) present an acceptable internal consistency.

4.4.2 Organisational performance – perceived organisational performance

Previous research has approached the existence of a strong and positive correlation between subjective and objective assessments of organisational performance (Guest et al., 2003), and the subjective ones have been widely used to assess performance within organisational contexts (Perry-Smith and Blum, 2000).

Shea et al. (2012) studied the adoption of perceptual measures of organisational performance and found that, among the studies that opted to use an existent scale, 69% chose to use the one developed by Delaney and Huselid (1996), which makes it the best instrument to measure perceived organisational performance. It also has the benefit of taking into consideration the fact that performance must attend to the unique conditions of the respondent's company (Reisel et al., 2007).

Delaney and Huselid (1996) developed a questionnaire composed of seven items that aim to address the respondent's perception of their company's performance over the past three years, having in consideration that the answer shall be based upon comparison with similar organisations. These items, together, aim to assess important metrics such as service quality, new business development, the capability to retain and attract talent, client satisfaction, and organisational relations.

Given the fact that researchers successfully assessed perceived organisational performance through the usage of a five-point Likert scale (Som, 2008), we opted to use a five-point Likert-scale, ranging from 1 (much worse) to 5 (much better). The perceived organisational performance instrument presents an acceptable value for item-scale correlations and the highest internal consistency comparing to the other instruments ($\alpha = .938$).

4.4.3 Employee work engagement – Utrecht work engagement scale

The 'Utrecht work engagement scale' (UWES) was originally developed by Schaufeli et al. (2002a) and aims to measure work engagement, through three fundamental aspects, namely vigour, dedication, and absorption. Later Schaufeli et al. (2006) developed a shortened version, composed of nine items, therefore entitled by its authors as 'UWES-9', facing the need for a smaller version of the questionnaire maintaining its scientific and operational validity.

When it comes to understanding the prospective behavioural outcome of these dimensions, it is important to clarify the following assumptions:

1   high levels of vigour mean that the employee presents high levels of energy and availability to put the best effort on a given task

2   high levels of dedication mean that the employee feels a connection with his work and perceives it as important and meaningful

3   high levels of absorption equals being immersive and positively enthralled with one's work (Schaufeli et al., 2002b).

According to its authors Schaufeli et al. (2006), the UWES scale can be applied as a unidimensional one-factor model, which measures employee work engagement as a unidimensional and aggregated construct, through its nine items, as well as a three-factor model which measures employee work engagement through its dimensions, vigour (VI), dedication (DE) and absorption (AB) therefore as a multidimensional model.

The adoption of one of the mentioned models of researching employee work engagement has been subject to various and different interpretations in terms of its validity. The UWES authors state that "practically speaking, rather than computing three different scores for VI, DE, and AB, researchers might consider using the total nine-item score as an indicator of work engagement" [Schaufeli et al., (2006), p.712], like it, between others, can avoid problems of multicollinearity.

As well, Seppälä et al. (2009) suggest the usage of the total score for the UWES-9, for any practical application except for the estimation of structural equation modelling of confirmatory factor analysis. Therefore, following the option adopted by previous researches (Sonnentag, 2003), the UWES scale, will be considered through its unidimensional characterisation, thus adopting the one-factor model of analysis.

The original purposed scale and followed within the research is a seven-point scale comprehended between 0 (never) and 6 (yes, every day). This measurement instrument presents an acceptable value for item-scale correlations and adequate internal consistency ($\alpha = .875$).

5   Results

We have estimated the value that characterises each dimension under the scope of analysis.

Table 2   Descriptive statistic results

	Min.-Máx.	Mean	Std. deviation
Organisational culture (OC)			
Clan culture (CC)	1–6	3.543	1.176
Adhocracy culture (AC)	1–6	3.360	0.984
Hierarchy culture (HC)	1–6	3.734	1.170
Market culture (MC)	1–6	3.906	1.083
Employee work engagement (EWE)	0–6	3.057	1.518
Organisational performance (OP)	1–5	2.972	0.954

Source: The author (2019)

When it comes to characterising organisational culture we have found low differentiated perceptions among organisational culture types, being market culture the most representative one (M = 3.906), followed by hierarchy culture (M = 3.734), then clan culture (M = 3.543), and adhocracy culture is the least representative organisational culture type (M = 3.360).

Although our model of analysis of employee work engagement follows a one-factor model scope, we find scientifically valuable and even advisable to analyse the responses given to characterise employee work engagement, realising that vigour is the predominant dimension identified by the respondents (M = 3.243), followed by dedication (M = 2.979) and, not by far, by absorption (M = 2.950). Therefore, the mean of general employee work engagement is 3.057.

The organisational performance presents a mean value of 2.972, being the dimension with the lowest standard deviation.

As detailed in the following table we observe positive and highly significant correlations ($\rho < .001$) within all the constructs that take part in our sub research questions, although with different intensity correlations.

Table 3   Pearson correlations

	1	2	3	4	5	6
1 Clan culture	1	.719***	.719***	.725***	.318***	.498***
2 Adhocracy culture		1	.652***	.735***	.272***	.403***
3 Hierarchy culture			1	.730***	.226***	.405***
4 Market culture				1	.283***	.399***
5 Employee work engagement					1	.314***
6 Organisational performance						1

Notes: ***Correlation is significant at the .001 level.
Source: The author (2019)

We started every approach to our sub research questions by confirming that all of the conditions required for the execution of linear regression analysis hold the required compliance. For the following tests, we consider significant the *p* values inferior to .05.

Referring to our sub research question 1, the multiple linear regression model has revealed to be statistically significant ($F_{(2, 626)}$ = 105.838, $p < .001$), presenting as significant predictors of organisational performance two of the total four types of organisational culture, namely clan culture (B = .347, t = 8.607; $p < .001$) and hierarchy culture (B = .080, t = 1.968; $p < .05$). The adhocracy culture and market culture have been excluded from our model for not explaining significantly organisational performance ($p > .05$). Clan culture and hierarchy culture types explain 25% of organisational performance variance ($R^2_{Ajust.}$ = .250).

Table 4   MLRM for OP (Independent variable: OC)

	Variables*	B	SE	Beta (b)	p
Included	*Constant*	1.444	.115		.000
	Clan culture (CC)	.347	.040	.428	.000
	Hierarchy culture (HC)	.080	.041	.098	.049
Excluded	Adhocracy culture (AC)	.071			.169
	Market culture (MC)	.046			.409

Notes: *Dependent variable: organisational performance (R^2_{Ajust} = .250;
    $F_{(1, 626)}$ = 105.838, $p < .001$).
     Source: The author (2019)

Clan culture is the organisational culture type that reveals higher influence (by far) on organisational performance (β = .428) followed by hierarchy culture (β = .098).

We are now in conditions to conclude that all organisational culture types positively influence organisational performance, being the clan culture and hierarchy culture types the ones that significantly influence organisational performance, meaning that the *first sub research question is accepted*.

Referring to our sub research question 2, the multiple linear regression model has revealed, as well, to be statistically significant ($F_{(2, 626)}$ = 37.365, $p < .001$), presenting as significant predictors of employee work engagement, two of the total four types of organisational culture, namely clan culture (B = .307, t = 4.323; $p < .001$) and market culture (B = .155, t = 2.017; $p < .05$). Clan culture and market culture explain 10,4% of organisational performance variance ($R^2_{Ajust.}$ = .104). The adhocracy culture and hierarchy culture have been excluded from our model for not explaining significantly organisational performance ($p > .05$).

Table 5   MLRM for EWE (Independent variable: OC)

	Variables*	B	SE	Beta (b)	p
Included	*Constant*	1.365	.217		.000
	Clan culture (CC)	.307	.071	.237	.000
	Market culture (MC)	.155	.077	.111	.044
Excluded	Adhocracy culture (AC)	.051			.406
	Hierarchy culture (HC)	.065			.283

Notes: * Dependent variable: Employee work engagement (R^2_{Ajust} = .104;
    $F_{(2, 626)}$ = 37.365, $p < .001$).
     Source: The author (2019)

Clan culture is the culture type that reveals higher influence (by far) on organisational performance ($\beta = .237$) followed by market culture ($\beta = .111$).

After the above-mentioned estimations, we are in conditions to affirm that all organisational culture types positively influence employee work engagement, being the clan culture and market culture the ones that significantly influence employee work engagement. Therefore, *our second sub research question is accepted*.

Referring to our sub research question 3, the simple linear regression model reveals to be statistically significant (B = .197, t = 8.281; $p < .001$), therefore employee work engagement is a significant predictor of organisational performance, influencing it significantly ($\beta = .314$), explaining 9,7% of organisational performance variance ($R^2_{Ajust.} = .097$).

We are now in conditions to conclude that employee work engagement positively and significantly influences organisational performance, meaning that our *third sub research question is accepted*.

Referring to our sub research question 4, to understand the mediating effects of employee work engagement on the influence that organisational culture types have on organisational performance, following the steps of Preacher and Hayes (2004), we characterise our mediation model as the following:

Figure 3 Mediation model
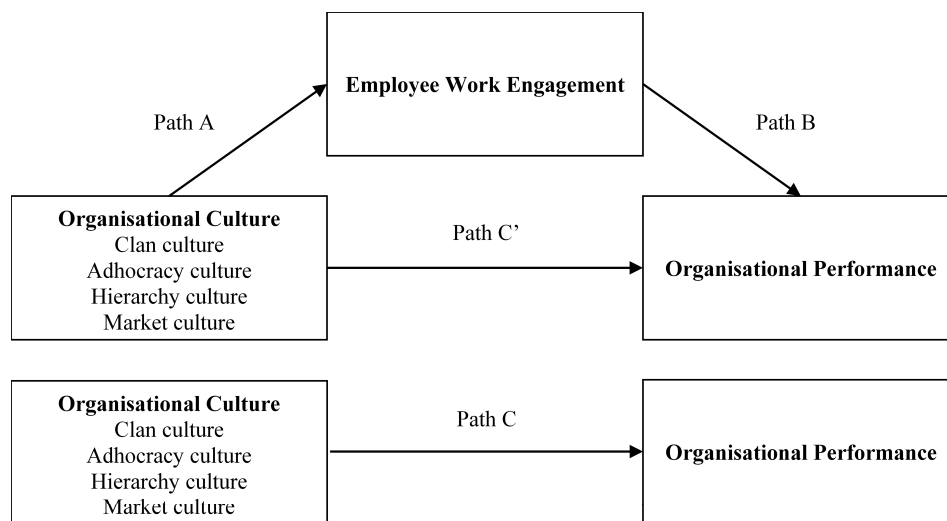
Source: The author (2019)

Estimations have been performed considering a 5.000 bootstrap and a 95% confidence level. The ahead reported B coefficients are non-standardised.

Aiming to fully address our sub research questions we estimated the mediation model by setting all of the four types of organisational culture as independent variables, expecting to understand the mediation effect of employee work engagement on the relational influence of each organisational culture type on organisational performance.

Considering clan culture as an independent variable, it reveals, in its total effect, to have a significant influence on organisational performance ($F_{(1, 627)} = 206.854$, $p < .001$)

and explains 24,8% of the variation of organisational performance ($R2$ = .248), influencing it positively (B = .404, t = 14.383, *p* < .001).

Table 6   Mediation model regression results (Independent variable: Clan culture)

Predictive variables	Employee work engagement		Organisational performance	
	B	SE	B	SE
Total effect				
Constant			1.540***	.105
Clan culture			.404***	.028
			R^2 = .248	
			$F_{(1, 627)}$ = 206.854	
Direct effect				
Constant	1.604***	.183***	1.365***	.109
Clan culture	.410***	.049***	.360***	.291
Employee work engagement			.109***	.225
	R^2 = .101		R^2 = .275	
	$F_{(1, 627)}$ = 70.317		$F_{(2, 626)}$ = 118.766	
Indirect effect				

	B	SE	Inf. 95% bootstrap CI	Sup. 95% bootstrap CI	R^2
	.045***	.011	.026	.068	.072

*** Correlation is significant at the .001 level

Source: (Source: The author, 2019)

Evidence is found that referring to the direct effect, clan culture positively and significantly influences employee work engagement (B = .410, t = 8.386, *p* < .001), which, in turn, influences positively and significantly organisational performance (B = .109, t = 4.829, *p* < .001).

Clan culture direct effect influence on organisational performance is significative as well (B = .360, t = 12.345, *p* < .001). This effect significantly ($F_{(2, 626)}$ = 118.766, *p* < .001) explains 27,5% (R^2 = .275) of the variation on organisational performance.

The indirect effect of this mediation model reveals to be positive and highly significant (B = .045, *p* < .001, 95% Boot CI = .026, .068). In this case, this effect explains 7,2% of the variation on organisational performance (R^2 = .072). Given the mentioned results we are in conditions to affirm that clan culture has a positive and highly significant effect on organisational performance, being this relationship partially mediated by employee work engagement.

Considering adhocracy culture as an independent variable, its total effect on organisational performance evidence to have a significant influence ($F_{(1, 627)}$ = 121.720, *p* < .001) and explains 16,3% of the variation of organisational performance (R^2 = .163), influencing it positively (B = .391, t = 11.033, *p* < .001).

Table 7 Mediation model regression results (independent variable: adhocracy culture)

Predictive variables	Employee work engagement		Organisational performance	
	B	SE	B	SE
Total effect				
Constant			1.658***	.124
Adhocracy culture			.391***	.035
			$R^2 = .163$	
			$F_{(1,627)} = 121.720$	
Direct effect				
Constant	1.649***	.208***	1.430***	.127
Adhocracy culture	.419***	.059***	.333***	.023
Employee work engagement			.139***	.036
	$R^2 = .074$		$R^2 = .208$	
	$F_{(1, 627)} = 49.929$		$F_{(2, 626)} = 82.056$	
Indirect effect				

	B	SE	Inf. 95% bootstrap CI	Sup. 95% bootstrap CI	R^2
	0.058***	.013	.035	.088	.053

Source: The author (2019)

Evidence is found that adhocracy culture positively and significantly influences employee work engagement (B = .419, t = 7.066, $p < .001$), which, in turn, influences positively and significantly organisational performance (B = .139, t = 5.972, $p < .001$). Adhocracy culture direct effect influence on organisational performance is significative as well (B = .333, t = 9.286, $p < .001$). This effect significantly ($F_{(2, 626)} = 82.056$, $p < .001$) explains 20,8% ($R^2 = .208$) of the variation on organisational performance.

The indirect effect of this mediation model reveals to be positive and highly significant (B = .058, $p < .001$, 95% Boot CI = .035, .088). In this case, this effect explains 5,3% of the variation on organisational performance ($R^2 = .053$). Therefore, adhocracy culture has a positive and highly significant effect on organisational performance, being this relationship partially mediated by employee work engagement.

Considering hierarchy culture as an independent variable, its total effect influence on organisational performance evidence to be significant ($F_{(1, 627)} = 123.236$, $p < .001$) and explains 16,4% of the variation of organisational performance (R2 = .164), influencing it positively (B = .331, t = 11.101, $p < .001$).

Our estimations also reveal that hierarchy culture positively and significantly influence employee work engagement (B = .293, t = 5.806, $p < .001$), which, in turn, influences positively and significantly organisational performance (B = .147, t = 6.454, $p < .001$). Hierarchy culture direct effect influence on organisational performance is significative as well (B = .287, t = 9.702, $p < .001$). This effect significantly ($F_{(2, 626)} = 86.438$, $p < .001$) explains 21,6% ($R^2 = .216$) of the variation on organisational performance.

Table 8   Mediation model regression results (independent variable: hierarchy culture)

Predictive variables	Employee work engagement		Organisational performance	
	B	*SE*	*B*	*SE*
Total effect				
Constant			1.738***	.117
Hierarchy culture			.331***	.030
			$R^2 = .164$	
			$F_{(1,627)} = 123.236$	
Direct effect				
Constant	1.963***	.198***	1.449***	.121
Hierarchy culture	.293***	.051***	.287***	.022
Employee work engagement			.147***	.030
	$R^2 = .051$		$R^2 = .216$	
	$F_{(1, 627)} = 33.704$		$F_{(2, 626)} = 86.438$	
Indirect effect				

	B	*SE*	*Inf. 95% bootstrap CI*	*Sup. 95% bootstrap CI*	R^2
	.043***	.010	.026	.066	.046

Source: The author (2019)

The indirect effect of this mediation model reveals to be positive and highly significant (B = .043, *p* < .001, 95% Boot CI = .026, .066). In this case, this effect explains 4,6% of the variation on organisational performance ($R^2 = .046$). Hierarchy culture has, therefore, a positive and highly significant effect on organisational performance, being this relationship partially mediated by employee work engagement.

Considering market culture as an independent variable, our estimations resulted in evidence that, within its total effect, there is a significant influence on organisational performance ($F_{(1, 627)} = 118.954$, *p* < .001) and explains 16,0% of the variation of organisational performance (R2 = .160), influencing it positively (B = .352, t = 10.907, *p* < .001).

Our findings also point that market culture positively and significantly influence employee work engagement (B = .397, t = 7.383, *p* < .001), which, in turn, influences positively and significantly organisational performance (B = .137, t = 5.876, *p* < .001).

Market culture's direct effect influence on organisational performance is significative as well (B = .297, t = 9.076, *p* < .001). This effect significantly ($F_{(2, 626)} = 79.919$, *p* < .001) explains 20,3% ($R^2 = .203$) of the variation on organisational performance. The indirect effect of this mediation model reveals to be positive and highly (B = .055, *p* < .001, 95% Boot CI = .034, .081). In this case, this effect explains 5,5% of the variation on organisational performance ($R^2 = .055$).

Table 9   Mediation model regression results (independent variable: market culture)

Predictive variables	Employee work engagement		Organisational performance	
	B	SE	B	SE
Total effect				
Constant			1.597***	.131
Market culture			.352***	.032
			$R^2 = .160$	
			$F_{(1,627)} = 118.954$	
Direct effect				
Constant	1.508***	.218***	1.390***	.132
Market culture	.397***	.054***	.297***	.023
Employee work engagement			.137***	
	$R^2 = .080$		$R^2 = .203$	
	$F_{(1, 627)} = 54.505$		$F_{(2, 626)} = 79.919$	
Indirect effect				

	B	SE	Inf. 95% bootstrap CI	Sup. 95% bootstrap CI	R^2
	.055	.012	.034	.081	.055

     Source: The author (2019)

We conclude that market culture has a positive and highly significant effect on organisational performance, being this relationship partially mediated by employee work engagement.

Given the mentioned estimations, we are in conditions to affirm that all organisational culture types are effectively mediated by employee work engagement within the frame of its influence on organisational performance. Consequently, *our fourth sub research question is accepted*.

6 Findings and discussion

Basing the following assumptions on the objectives of this research, the literature reviewed, the methodology adopted and the results achieved, we address, in an overview framework, the findings and interpretations reached, as well as the practical implications of this research, observing, about theoretical implications, that the results achieve the objective stated in the first paragraph of our literature review, which is to identify the scientific limit of our topic and go beyond it.

One empiric finding of this research was to get to know the increasing attention that has been given, both by academics and managers, to organisational culture and the effect that it has on the organisation (Zheng et al., 2010), highlighting the fact that the definition of organisational culture is not, at all, consensual, neither it is its analysis or assessment scope.

We have applied our conceptual framework to an activity sector found to have immense importance on the protection, by legal and conceptual definition, of people and assets, therefore of our businesses and even our way of life: the security sector.

People and businesses deal with risks at all time and even though risks can be managed and reduced, it is impossible to achieve a zero risks status (Krahmann, 2011), so effort must be put in the minimisation and control of those risks, namely giving the fact that private security companies, and therefore its personnel, that constitutes the sample of our research, have a significant responsibility on the protection of our businesses.

Within this theoretical framework, we concluded the following:

Q1   Organisational culture influences organisational performance, as it also has proven to do so in a variety of other researches (Gregory et al., 2009; O'Reilly et al., 2014; Valmohammadi and Roshanzamir, 2015; Zheng et al., 2010), in all its types, although only clan culture and hierarchy culture significantly influence organisational performance.

Clan culture has a much higher influence than all the other culture types on organisational performance, which analysed through the effectiveness criteria established by Hartnell et al. (2011), which states that employee satisfaction and commitment (which are related constructs of employee work engagement) is the main driver for predicting organisational performance in organisations that present this cultural type.

In terms of influence on organisational performance, clan culture is followed by hierarchy culture, which effectiveness criteria are efficiency, timeliness and smooth functioning, which points to be a factor of production since it partially corresponds to the factor for mistake-proofing effect on organisational culture in a security management framework (Lee et al., 2019b).

Adhocracy culture and market culture also does have a positive influence on organisational performance, although their influence is not statistically significant, therefore not considered for this purpose. Effectiveness criteria for these culture types are innovation (referring to adhocracy culture), increased market share, profit, product quality and productivity (referring to market culture), which are conditions not greatly perceivable (principally for not having much visibility on this metrics) for operational personnel, which is the case of our research sample.

Q2   Our estimations reveal that organisational culture effectively influences employee work engagement. These results match the results obtained by other authors within the analysis of different contextual scenarios. In this context, only clan culture and market culture have been considered as positive and significant predictors of employee work engagement (although clan culture has much more influence than market culture).

Q3   Employee work engagement revealed to, in fact, influence organisational performance, matching the results obtained by researchers (naturally with different scientific objects) on this relationship (Bakker and Bal, 2010; Bakker et al., 2004).

Q4   Regarding our research on the mediating effect of employee work engagement on the influence of organisational culture on organisational performance, we conclude that within the influence of all four organisational culture types on organisational performance, all reveal to be partially mediated by employee work engagement.

This result supports our assumptions made on the influence of employee work engagement as a mediator of organisational performance.

7 Conclusions

The key objective of the study of any scientific phenomenon and its expectable impact on businesses shall be to effectively set the goal of research as being capable of successfully improve businesses (McGahan, 2007). This construct, through our vision, is verified in this research.

Firstly, we address the expectable outcome of this research that it expresses and raises awareness for assessment or performance within analytic criteria broader than financial related metrics, ensuring that the organisation strategy is fully accomplished.

A secondary objective of this research is related to the systematisation of security-related activities (in case, the performance of security personnel) as a production factor, crucial to business and that shall be assessed, quantified, and subject to improvement efforts. This objective is partially accomplished with the approach to how organisational culture is, partly, responsible for the implementation of outcome improvements, such as performance.

At last, but not least, being proved that organisational performance is, in fact, the excellence metric in assessing the company activity-related outcomes, knowing by the majority of the reason that labour force has a key influence on organisational performance, the understanding of how organisational culture influences the individual performance of employees is of crucial importance.

If those employees are responsible for the security of our critical assets, then it is critical to adopt the cultural context in which those individuals are inserted. As now known, clan culture, followed by hierarchy culture, is the cultural types that have a higher effect on organisational performance, being positively influenced by high levels of employee work engagement.

Thus, managers who seek to achieve high levels of organisational performance shall understand and address organisational culture, being aware of the mediating effect that employee work engagement has on that influential relationship.

A clear limitation of this research is the high dissemination and lack of authority definitions on the concepts approached, principally in organisational culture, given the fact that "for every definition of what culture is, there is an important contrary view" [Schneider et al., (2013), 370].

This research aimed to assess its scientific objectives considering security personnel from all operational functions, specifically security guards, security coordinators, and security directors. The respondents that perform security coordinator or security director functions were represented with a very small number of respondents. Given the fact that this type of researches must base itself on a broad range of organisational members, to produce more representative and richer results, it would be desirable to have a bigger sample of respondents from other functions than security guards.

To summarise the main conclusions of the current research we can conclude:

1 organisational culture influences organisational performance

2 organisational culture effectively influences employee work engagement

3   employee work engagement influence organisational performance

4   employee engagement influence organisational culture and performance

It is inevitable to refer that another natural limitation of this study is the fact that our sample is a convenience sample, which does not allow this research to address the general existent population and therefore be considered as representative.

Addressing future research is particularly interesting and important given the fact that the security sector is under-researched. Our suggestion, forming a sort of invitation, is to apply further research on this sector to understand it within the same measure of the importance it has or may have, in our businesses. A good starting point would be to address the eventual linkage between organisational culture and the adoption of organisational security behaviours, aiming to address what may be called as the security culture.

We find very interesting the research on this subject considering an eventual relationship between organisational culture and industry type, therefore for a better understanding of this relational theory research shall be made within other industries.

Further researches within this framework shall give special importance to address hierarchical seniority of the respondents, to assess the possibility of correlating the relationship that constitutes the object of our research, with the complexity of the function of the correspondents, thus testing the hint stated by Judge et al. (2001), which found evidence that linkages of job satisfaction being highly correlated with the complexity of the function.

It would also be very interesting to perform the same research model although considering assessing performance also in a non-perceptual framework, allowing the results to assess the general validity of the significance of perceived organisational performance as to measure organisational performance within this sector and the given sample.

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