Article

The Impact of Strong Cultures on Organisational Performance in Public Organisations: The Case of the Greek Public Administration

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Abstract: Existing literature suggests that a strong culture is essential to the success of an organisation. However, some researchers have since disputed this claim, arguing that while some strong cultures lead to success, others fail. Examining several examples over time, the so-called "case for a strong culture" presents significant weaknesses. The present study, based on the Competing Values Model, examines the effects of a culture's strength on the organisational performance in the public sector. A sample of 92 departments of Greek public organisations was examined, of which a total of 424 people responded to an online questionnaire. The participating organisations and their departments range in size, in terms of the number of their staff, from 15 to 54 members, and come from different segments of the public administration. The results showed that there is no relationship between culture's strength and an organisation's performance and that strong cultures do not have a significant impact on organisational performance in the public sector. The main objective of this research is to enrich the existing knowledge on the relationship between culture and performance, especially in the area of the public sector, since existing studies mainly focus on culture comparisons between large companies using mainly small samples. This study highlights the importance of culture given the chronic problems of Greek public administration to create public value and to be innovative and effective. The results are also of particular importance for the post-pandemic period indicating the need for major changes and reforms in public administration.

Keywords: public sector; organisational culture; strong culture; weak culture; performance

1. Introduction

Performance, along with organisational culture, are among the most researched management concepts, both in private and public organisations. However, the majority of studies addressed the private sector organisations with much less attention devoted to public organisation's culture and performance relationship (Taouab and Issor 2019). Additionally, organisational culture is considered to be one of the key intangible resources influencing an organisation's performance through motivating employees to work and engage in knowledge acquisition, experience, and decision-making (Obeidat et al. 2018). The existence of a common organisational culture motivates employees and offers the ability to create and exchange information, improving and developing their skills and experiences and allowing these ideas to be cross-fertilized. Today's organisations, especially in the public sector which is characterized by the problems of bureaucracy and resistance to change and innovation, need to develop a positive organisational culture and a high level of flexibility to achieve continuous improvement and quality and be innovative and adaptive to changes.

Many scholars have suggested ways to improve employees' morale and capabilities. For example, Laforet (2017) found that in order for an organisation to be more competitive and to motivate employees, top management needs to practice different management styles

and develop skills to be better equipped in facing unforeseen challenges and discontinuities (Prabhakar et al. 2018). However, there are aspects, other than skills, that might ensure employees' superior performance within an organisation. These qualified individuals should be involved in a working environment characterized by clear positive attitudes. These attitudes relate to organisational culture, organisational commitment, and job involvement since these are the common work attitudes that mainly impact organisational performance. In this respect, scholars frequently report a common finding that organisational culture is one of the main factors that strongly impact organisational performance both in the private and public sectors (Arifin 2015; Nwachukwu 2016; Laforet 2017; Joseph and Kibera 2019; Tan 2019). However, research in the context of the public sector is still limited, although the need to enhance public service organisations' performance has never been more pressing (Alom 2020), due to the failure of traditional bureaucratic structures and procedures to solve chronic problems of inefficient public administrations, such as higher taxes, waste of resources, budget deficits, high inflation, and unemployment (Lapuente and Van de Walle 2020; Meričková et al. 2020; Mikušová 2020). In this context, organisational culture has become one of the critical issues of performance measurement and management (Kotková Stříteská and Sein 2021).

Hence, one of the purposes of this study is to examine the influence of organisational culture on organisational performance in the Greek public sector. The present study is based on the Competing Values Model introduced by Quinn and Rohrbaugh (1983), which is widely used both for measuring the strength of culture and for diagnosing the type of organisational culture. The research results are expected to have practical value both for public servants at the top management (contributing to a more effective management of their organisational culture, as it evolves over time) and for academic researchers and thus be used as a model of best practice by other public sector organisations. The originality of the study lies in two points. The first point is the fact that the study examines the strength of culture and its impact on organisational performance, which is scarce in the relevant literature for the public sector. Secondly, the sample used is also original as there are no corresponding studies for Greek public organisations. The findings are expected to provide a broader understanding of the concept of culture and its impact on the public organisation's ability to operate more effectively and provide quality services to citizens.

2. Literature Review

2.1. Organisational Performance and Its Measurement

Organisational performance has always been a crucial factor, whether it is a profit or a nonprofit organisation. Organisational performance is mainly associated with the term effectiveness; more specifically it is considered a dimension of effectiveness (Hamann and Schiemann 2021; Xanthopoulou 2021; Xanthopoulou and Sahinidis 2022). A general definition of performance is the extent to which organisations achieve all their planned goals. Researchers, nevertheless, provide different definitions of performance and it still remains a contentious issue. For Daft (2000), performance refers to the organisation's ability to meet its goals by using resources in an efficient and effective way. In addition, Kaplan and Norton (2001) describe performance as the organisation's capacity to accomplish its goals effectively and efficiently using the available human and non-human resources. The same view is shared by Cascio (2014) and Schein (2005), who state that achieving organisational goals is synonymous with organisational performance.

The private and public sectors by definition differ in terms of their purpose and rationale (Jurisch et al. 2013). The private sector has always been a driver of the economic and social development of society, as the main objective of private organisations is to be profitable and competitive. Profitable private organizations contribute to unemployment reduction, income flow, and social welfare. On the other hand, the public sector offers intangible goods for everyone, i.e., services which do not aim at a profit but at serving society as a whole. Furthermore, private sector organisations are strongly influenced by external competition, so they developed tools and practices in order to measure competitors'

power and compare their performance. Such a practice was "benchmarking", a method that is used in management and, in particular, in strategic management of companies or organisations to evaluate the various aspects of their operation and evaluate better practices of other organizations (mainly competitors) (Raval et al. 2020). The public sector is monopolistic. Therefore, the first differences regarding the concept of performance are related to the main purpose of the two sectors and the competition in which they operate. Thus, performance measurement, especially before the 90s, was mainly associated with the private sector, and it can be considered that it is imbued with a performance-driven culture.

The measurement of organisational performance is discussed in many studies, and described as an essential process both in business and public organisations (Prokop et al. 2019). In the public sector, this term refers to the need for new services and the improvement of service quality (Brignall and Ballantine 1996). According to Bititci et al. (2000), performance measurement effectiveness needs a set of criteria. These include, for instance, the ability to prioritize objectives and make dynamic adjustments, as well as the adaptability and flexibility to changes in the internal and external environment and the ability to find appropriate means for emerging goals. Performance measurement is progressively becoming a crucial component of every organisation's management (Beshi and Kaur 2020; Todisco et al. 2021; Xanthopoulou and Sahinidis 2022; Plaček et al. 2021; Androniceanu 2021).

Performance measurement in the public and private sector show differences for two main reasons. The first reason is the nature and scope of private sector firms is the maximization of profit, so performance measurement is a straightforward and competitive technical process. The second explanation focuses on the specific social and political pressures exerted on public sector organizations. Public services operate with given funds, and citizens/customers compete with each other in a way in order to be granted as many services as possible. The market solution here would be for citizens to pay for the services they receive, but a welfare state mandates the exclusion of this market alternative. This lack of resources in the public sector indicates that citizens' satisfaction cannot be the only or dominant dimension of performance measurement and that it should be handled with conscious care. So, for many decades, performance in the public sector was measured only with financial indicators, and effective public organisations were those which achieved the reduction of costs and the better allocation of (financial) resources.

Since 1990, the adoption of the New Public Management standards has already been established. Performance reflects the effective exercise of responsibilities and the continuous improvement of public organisations through the more efficient and effective utilization of their resources and employees, identification and resolution of problems in their services, and evidence-based decisions. Distrust in the government is often attributed to problematic government performance. Thus, performance is a crucial factor for sustaining public trust and getting continuous financing and resources (Zhang et al. 2022). The main criteria for measuring the performance of public services include efficiency, quality, and effectiveness. Efficiency, which refers to the cost of providing services, often occupies most of the measurement systems and includes the measurement of services' quality and effectiveness, which refers to the degree of achieving the expected results (Ammons 2022). In this research, we use all these criteria since, based on international experience, there is a need for a holistic measurement in all three key areas (efficiency, quality, and effectiveness (Suzuki and Demircioglu 2021; Bauhr and Carlitz 2021). The performance measurement methods of efficiency and effectiveness applied in Public Administration internationally are divided into three categories: firstly, in financial performance metrics (such as Return on Investment—ROI and Zero-Based Budgeting System—ZBB), secondly, in efficiency metrics (such as the Stochastic Frontier Analysis—SFA), and thirdly, in strategy metrics (such as Best Practices/Benchmarking and Balanced Scorecard—BSC).

However, the public administration's need to improve the performance and effectiveness of public policies has led international organisations, national governments, and the international academic community to search for new, more effective models of measure-

ment in public administration, especially during the last two decades (Pollanen et al. 2017; Bracci et al. 2017). The need to enhance public service performance has never been more pressing. Effective management is built on accurately measured performance and results. Deploying a system of performance measurement and execution is the first criterion for development and ultimate success. So, it is critical to understand the organisation's limits and identify the resources needed in order to deliver good results and establish a performance measurement system. In addition, traditional bureaucratic structures and procedures have been shown to fail to solve chronic problems of inefficient public administrations, such as higher taxes, waste of resources, budget deficits, high inflation, and unemployment (Lapuente and Van de Walle 2020).

Performance a term from the private sector was first introduced in the public sector in Greece, with the law on performance management in the public sector (2005), which referred to the obligation of organisations to prepare five-year strategic plans and annual action plans, with specific objectives and measurement indicators for all agencies of the Greek public administration. A law introduced in 2004 referred to as Management by Objectives (MBO) and performance measurement provided the creation of "quality and efficiency" in central and local public administration (Law 3230 2004). This model of strategic planning and measurement is based on internationally accepted methodologies for evaluating the internal and external environment of public organisations (such as SWOT and PESTEL analyses). Furthermore, it refers to specific actions and objectives to be achieved (Balanced Scorecard), and to key indicators for evaluating their degree of accomplishment (Management By Objectives). The introduction of specific and measurable objectives in the public sector is a practice that aims to increase the efficiency of public services. Public Administration reinforced its performance policy with a further specialisation with Law 4369/2016, which added further specific measurable objectives and performance indicators identified at the level of each service to enhance accountability and transparency.

Moreover, in 2007 the Common Assessment Framework (CAF) was introduced as a self-measurement and quality management tool in the public sector, aiming to evaluate the needs of public administration employees. CAF is the only tool introduced by the public sector for the needs of the public sector. The CAF also aimed to introduce participatory measurement in the services provided by the agencies. A grace period of one year was given, which finally became two years, in terms of voluntary and pilot implementation of strategic planning and measurement in all public organisations, while at the same time, consultants from the private sector were hired to support public organisations in the design and implementation of their strategic plans (Mikhaylov et al. 2018).

At the human resources level, specialized training programs for civil servants were implemented by the National Center of Public Administration. In total, within the period 2005–2022, approximately 2500 employees of the Greek public administration were trained in strategic planning and measurement. It should be noted that the reform for the performance management development in the Greek public administration was a key political announcement of the government at the time (2005), in the context of the government program for the re-inventing the state, through the reorganisation of public administration and the adoption of a public services model less bureaucratic, decentralized and based on strategic planning and measurement, which would lead to greater quality services to citizens.

Analyzing the factors for this limited effectiveness in measuring public services and for the limited compliance and false-compliance problems of the agencies, the reproduction of timeless and important pathogens and failures in promoting reforms in Greece is obvious. Despite the introduction of a specific institutional framework and standardized procedures for goal setting and measurement procedures, as so as for the provision of the required funding and external scientific and technical support, there were significant false-compliance problems. These problems are caused by the lack of political commitment and support for the implementation of measurement policies, and the limited support by the public administration, despite the government's announcements. The lack of political

support came from the wider lack of political endorsement of the reforms in Greece in general, due to the patronage from strong status quo interest groups, and the fear of the political cost of change. In this case, the representatives of civil servants reacted to this reform, considering measurement as a Trojan horse for the privatisation of public services, the reduction of public sector salaries and benefits, and the dismissal of civil servants. Motivating public servants in order to be more effective and increase their performance is becoming nearly impossible in an era of decreasing public financing for local government organisations, with managers looking for non-monetary compensation systems to preserve, or even boost the motivation and performance of their employees (Mylona and Mihail 2020). The culture of resistance and the reaction of the civil servants to several change initiatives was a key factor in suspending administrative reforms in Greece.

2.2. Organisational Culture and Performance

Although there are different views on the meaning and definition of organisational culture, most of them refer to a set of guiding principles and values that influence every behavior, action, and work relationship (Carvalho et al. 2019; Arayesh et al. 2017). The definition of organisational culture is a subject of debate since it involves various scientific fields. As a result, the term is used interchangeably with concepts such as the values and the environment of an organisation or, with norms of behavior and common values of a group of people. It also means a "shared way of being, thinking and acting in a collective of coordinated people with reciprocal expectations" (Serpa 2016, p. 51). A thorough definition of culture is provided by Brown (1998), who states that "organisational culture refers to the patterns of beliefs, values, and learned ways of coping with experience that have developed over the course of an organisation's history, and which tend to be manifested in its material arrangements and in the behaviors of its members" (Brown 1998, p. 9). Schein (1985) pointed out that culture includes the deeper beliefs and assumptions shared by the members of an organisation. These beliefs and assumptions are created and maintained by the organisation's effort to overcome the challenges of the hostile external environment. They also serve for shaping behaviors for both the older members of an organisation and the new ones (Kotková Stříteská and Sein 2021).

Even though there is no consensus in the literature on organisational culture, almost all scholars agree that the term includes both tangible and nontangible elements. In the present study, organisational culture is defined as the set of basic assumptions or beliefs and values which determine the behavior, as well as the mode of operation and activities of an organisation. Common values and assumptions determine what behaviors are rewarded, which people are promoted, what is considered high performance, and what kind of relationships exist between the members of the organisation. Organisational culture is strongly related to the sense of trust, loyalty, and teamwork, which encourage employees to comply with the norms and traditions (Popoli 2017). So, cultural factors have a significant impact on individual performance, which in turn affects employee performance (Adeoye and Hope 2020; Taye et al. 2019; Carvalho et al. 2019; Samuel et al. 2017). However, there is an inconsistency in this relationship, as some scholars (such as Gasela 2022) found that there is no relationship, or a significant relationship, between organisational culture and performance (Bilal et al. 2018; Naranjo-Valencia and Calderon-Hernández 2018; Ott 1989; Byles and Keating 1989; Lim 1995).

Bradley and Parker (2006) found that public institutions have shared a common set of traits for a long time, including formalised decision-making processes, structural hierarchies, and systems of rules. A common finding of the relevant literature is that unless conventional organisational cultures in the public sector adapt to reflect the contemporary role of government as a catalyst of economic growth, they are likely to impede the modernisation of public services. According to Christensen and Lægreid (2001), the informal norms and values that govern the balance between loyalty and neutrality in the interaction between the political leadership and the administrative apparatus are a common feature of organizational culture in public organizations (Huragu and Chuma 2019). They also

pointed out that when political leadership changes, a strong feeling of loyalty can cause many difficulties.

Generally, the relationship between organisational culture and performance is examined by many researchers. A common finding is that the way an organisation's culture is shared, and ingrained among individuals, may have a beneficial effect on organisational performance (Zain-Ul-Abidin et al. 2020). Performance management and measurement are complementary to organisational culture. Creating a culture that has the ability to increase the motivation of the organisation to achieve its goals is referred to as a "performance-oriented culture". This approach emphasises not just the human resources individually, but the entire organisation's being accountable for achieving goals (Prentice et al. 2019). Early researchers studied the impact of organisational culture, its characteristics, and some aspects of performance in public sector organisations focusing mainly on local government (Spekle and Verbeeten 2014). However, these studies did not address the identification of culture's crucial attributes that drive the organisation's higher performance.
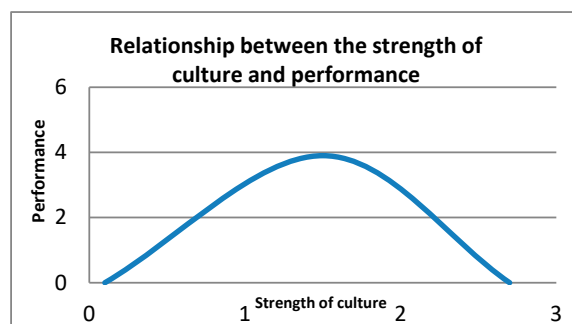
2.3. Organisational Culture Strength

One dimension of organisational culture refers to its strength, which according to Cameron and Quinn (1999), means the extent of the ability of culture to influence everything and everyone within an organisation. Organisations vary in terms of the strength of their culture, which may be strong or weak, referring to the extent to which members adapt to that culture (Thokozani 2017). Many researchers proposed that strong cultures are generally more effective and positively related to organisational performance (Odor 2018). The stronger the culture of the organisation, the more confidence is built into employees' commitment. Strong cultures serve as a tool for controlling and motivating employees, hence enhancing their performance (Gochhayat et al. 2017; Thokozani 2017; Naranjo-Valencia and Calderon-Hernández 2018). Regarding the achievement of organisational goals, Thokozani (2017), found that strong organisational cultures are more successful than weak ones. Several studies show that culture is positively related to business performance but under certain conditions, such as the type of environment.

However, there are a few studies that report that organisations with strong cultures stymie the innovation process and flexibility, creativity, sense of freedom, and risk-taking attitudes (Naranjo-Valencia and Calderon-Hernández 2018; Ott 1989, Byles and Keating 1989). If an organisation fails to monitor and adapt to external environment changes and trends, it will not be able to discover and exploit opportunities. It is commonly agreed that strong, cohesive cultures allow for more freedom in expressing people's feelings since members feel connected to one another and can share their opinion without fear of harming their relationships. However, since both the information perception and interpretation processes have been affected in a definite way by the dominating organisational culture, rigorous socialisation and strict adherence to existing norms can produce individual views and ideas that are strikingly similar. These controlling cultures discourage new thoughts and creativity and restrict the perception of innovation stimuli among organisational members. Strong organisational cultures, according to academics who argue about the positive relationship between organisational culture and performance, are important for high performance because they improve the consistency of performance initiatives (Akpa et al. 2021; Morgan and Vorhies 2018; Joseph and Kibera 2019; Zhang et al. 2008; Bangun 2008).

On the other hand, in the context of a weak organisational culture, employees simply follow the rules and regulations out of fear of the repercussions of their inaction rather than out of a sense of job pleasure. When this happens, most members do not adopt the principles and practices that top management has modeled. Weak organisational cultures put little to no effort into fostering a sense of team among the members. People will perform the required tasks and will not make an attempt to interact with others until forced to do so. Their viewpoints, values, and interests will be quite diverse, and the organisational impact on their external lives here will be very little (Thokozani 2017). For Warrick (2017), a

weak culture describes organisations where norms and practices are unknown or confusing, inconsistent, or not reinforced. An organisation with a weak culture finds it difficult to clearly communicate the expectations to employees and, thus, there is a negative impact on factors such as morality, relations with the public, innovation, cooperation, trust, and performance (Suharnomo 2017).

From the above, we suggest that there is a curvilinear relationship between the strength of culture and organisational performance, which can be shown in Figure 1 below. Figure 1 shows that the performance rate increases as culture becomes stronger, up to a point. Beyond that point, a stronger culture will have an adverse effect on performance.


Figure 1. The strength of culture and its relationship with performance.

Based on the above we can suggest the following hypothesis:

H0. *There is a curvilinear relationship between the strength of culture and the organisational performance in public organisations.*

3. Methodology

To measure organisational culture and culture strength, we used the Competing Values Framework (CVF) proposed by Cameron and Quinn (1999). CVF is mainly used in private organisations, however, (especially in the most recent years), it is also used to measure and evaluate organisational culture of public organisations. Organisational culture in the public sector is considered a predictor of quality improvement, employee and "customer" satisfaction, and team functioning (Botti et al. 2018). The Competing Values Framework (CVF) classifies organisations into four types of culture. Cameron and Quinn (1999) proposed four types of cultures—adhocracy, clan, market, and hierarchy—using two dimensions: flexibility and discretion versus stability and control and external focus versus internal focus and integration (Figure 2). Four types of organisational cultures are created by combining these factors with six organisational aspects: dominant characteristics, organisational leadership, employee management, the organisational glue, strategic focus, and criteria for success.
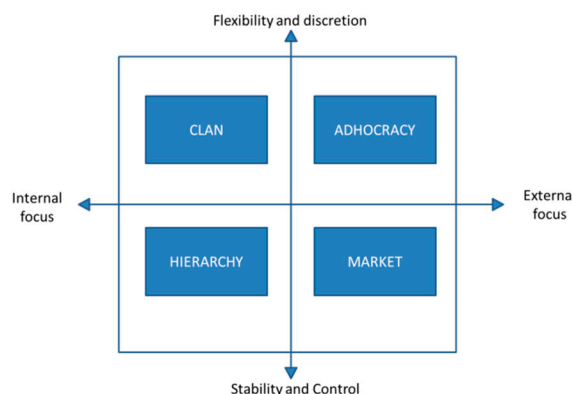
Figure 2. Model.

1. The adhocracy culture focuses on adaptability and change and is externally orientated. In an adhocracy culture, creativity, entrepreneurship, and taking calculated risks are important principles (Felipe et al. 2017). In the public sector, it is mainly related to innovations or reforms, such as the digital reform of public administration.

2. The clan culture also emphasizes flexibility, but it is internally oriented. Cooperation, employees' involvement, and the organisation's commitment to its members are key elements of organisations with a clan culture (Nuñez Ramírez et al. 2016). This type of culture does not show differences comparing the private with the public sector.

3. A market culture is externally oriented and promotes control and stability. Goal achievement, consistency, and competition are the key values of a market culture (Shami et al. 2021). A market culture also refers to customers' satisfaction issues, so for the present research, it means the ways that organisations achieve their goals (MBO) and ensure quality in their services to citizens.

4. Finally, a hierarchy culture is also control-oriented, but it focuses on the internal organisation. Its main characteristics are efficiency and close adherence to norms, rules, and regulations (Al-Ali et al. 2017). This type of culture is the most common in the public sector and is also known as "bureaucracy" in Weber's works on organizational management.

The *strength of culture* is one of its key dimensions and has been the subject of a significant number of studies. In the present study, culture is considered strong when one of the four types of culture mentioned above dominates the business. The greater the difference from the second scoring, the stronger the organisational culture is (Cameron and Quinn 1999). The type of sampling used in this survey, in almost all observations, is snowball sampling since the majority of those who agreed to participate in the survey during the first contact, eventually withdrew, thus forming the final sample of 92 departments of public organisations, with a total of 424 respondents (public servants). The sample consists of organisations that exist only in the public sector. Specifically, the 26.3% of the respondents work for Citizens' Service Centres (CSCs), the 32.7% for Ministries/policy departments, the 16.4% for courts, the 13.8% in IAPR (Independent Authority for Public Revenue), and the remaining 10.8% for the administrative services of Greek public universities.

The hypothesis derived from the literature review is tested using analysis of variance (ANOVA) and *t*-test, and Kruscall-Wallis and Mann-Whitney tests where the samples are small and the use of non-parametric methods was deemed appropriate. The following analysis used the statistical software package SPSS, v. 19.1.

The second part of the questionnaire concerns *performance*. In general, performance is the dependent variable in most organisational studies. Katz and Kahn (1966) proposed that the relevant literature was not lagging in the development and examination of variables defined as performance. Such variables included efficiency, productivity, profitability, human resource retention, effectiveness, etc. The problem that existed and still exists is the subjectivity of the researcher. To overcome the problem of the multiplicity of performance criteria, Quinn and Rohrbaugh (1983) suggest that one defines performance differently, when he/she comes from the school of human relations, compared to someone coming from the area of the rational organisation. The authors of the school of human relations include in their definitions the development of human resources, cohesion, morale, employee satisfaction, etc. In contrast, researchers from the field of the rational organisation focus on issues such as productivity, efficiency, and profitability and rely on financial indicators such as return on capital (ROI), or sales growth. In the present research, measures of perceived performance are used, both to avoid the above problem, with regard to larger organisational units, and for the reason that participating organisational units do not make available their performance reports. In measuring the performance of the organisations participating in this study, a scale was used, which was based on previous studies by Dess and Robinson (1984); Kotter and Heskett (1992); Christensen and Gordon (1999). The validity and reliability of the performance scale based on subjective indicators have been

successfully tested in a number of empirical studies (Dess and Robinson 1984; Mavondo and Farrell 2003).

4. Results

4.1. Organisational Culture

The present study confirms the fact that the scale used is a reliable tool for measuring culture. The variable of strength was divided into three parts after a study of the organisations' relevant scores. Specifically, all organisations in the sample were divided into three groups: those with the strongest cultures, the medium, and the low-strength ones, with each group comprising 33.33% of the total sample. Specifically:

1. if the strength is less than 8.75 (Low);
2. if the strength is between 8.76 and 13.32 (Medium);
3. if the strength is greater than 13.32 (High).

4.2. Performance

Performance was measured by all questions included in almost all major studies in the field (Waterman and Peters 1982; Kotter and Heskett 1992). The reliability of the Cronbach performance measurement instrument is $\alpha = 0.8203$.

In the following paragraphs, the hypothesis derived from the literature review is statistically tested.

H1. *Strong cultures have a positive impact on organisational performance of a public organization.*

To test this hypothesis, the Spearman correlation test was used to determine if there is any statistically significant relationship and if the "strong culture" hypothesis is confirmed. In using the Spearman correlation, the normal distribution of the sample is not required as a basic condition, nor is the randomness of the sample (Table 1).

Table 1. Strength of culture and organisational performance (Correlations).

Spearman's Rho	STRENGTH	STRENGTH Correlation Coefficient 1000	PERFORMANCE 0.132
		Sig. (2-tailed), N 92	0.087 92
		PERFORMANCE Correlation Coefficient – 0.132	1.000
		Sig. (2-tailed) 0.087, N 92	92

Table 1 shows that the strength of the culture has no statistically significant relationship to performance, (*p*-value = 0.087). This relationship points to the direction of accepting the Null Hypothesis (Ho). Also, looking at the coefficient, its sign is an indication of a negative relationship between the two variables. To test this hypothesis, the method of (ANOVA) was used, with the factor "strength" in three levels. "Performance" is used as a dependent variable, while the levels of strength are: (1) low strength, (2) medium strength, and (3) high strength. Alternatively, to avoid the hypothesis that the sample populations are normal with common dispersion, the Kruskal–Wallis criterion is used to test the hypothesis that the three samples are from populations with equal mean values. Using the non-parametric method of Kruskal–Wallis is supported by *p*-value = 0.002, which leads to its acceptance. From the two tables that follow (Tables 2 and 3) it can be seen that the three strength groups of the culture do not differ from each other in the sample of the present research.

Table 2. Strength of culture and organisational performance (Descriptives).

| STRENGTH | Performance | | | | 95% Confidence Interval for Mean | | Minimum | Maximum |
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound		
LOW	25	19.1908	3.48	0.7419	17.6478	2.7337	11.32	25.38
MEDIUM	28	18.2391	4.3071	0.7736	16.6592	19.8190	6.34	27.25
HIGH	31	17.2618	5.0259	1.1846	14.7624	19.7611	7.07	26.38
TOTAL	84	18.2862	4.2716	0.5069	17.2752	19.2973	6.34	27.25

Table 3. Strength of culture and organisational performance (ANOVA).

1 ANOVA					
Performance					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	35.96	2	18.480	9.210	0.002
Within Groups	940.274	82	18.239		
TOTAL	1177.234	70			
2 KRUSKAL-WALLIS					
Ranks					
	STRENGTH		N		Mean Rank
Performance					
	1.00		25		39.54
	2.00		28		35.9
	3.00		31		30.24
	TOTAL		84		
Test Statistics					
	PERFORMANCE				
Chi-Square	5.384				
df	2				
Asymp. Sig.	0.002				
a Kruskal Wallis Test					
b Grouping Variable: SRENGTH					

The results of the analysis are as follows: (a) during the analysis of variance (ANOVA), the null hypothesis is accepted (p-value = 0.368). The strong culture hypothesis is not confirmed as expected, according to the references in the literature review, corroborating earlier findings of other studies mentioned above (such as Gasela 2022).

5. Conclusions

Organisational culture and performance have attracted significant research attention, but it mainly focuses on the private sector. According to theory, organisational culture affects employees' attitudes and behaviors, which in turn affects performance. Literature tends to support the notion that the strength of organisational culture and its alignment with the strategy and the structure are important in explaining organisational performance. Additionally, empirical evidence about the link between organisational culture and long-term performance has been demonstrated in previous studies.

The present study attempts to examine the widely shared belief of strong cultures being more effective than less strong ones in public sector organisations. The researchers attempted to demonstrate that the widely shared belief that strong cultures are more effective than less strong or weak ones is not well founded and deserves further examination. Public

servants should be aware of how strong their organisational culture is, especially those in senior management positions. The key finding of this study is that there is no relationship between the strength of culture and the organisational performance of a public organisation. This finding is consistent with previous findings obtained by Bilal et al. (2018); Naranjo-Valencia and Calderon-Hernández (2018); Ott (1989); Byles and Keating (1989); Lim (1995). However, this result runs contrary to findings reported by many researchers, such as Odor (2018); Gochhayat et al. (2017); Thokozani (2017); Panagiotis et al. (2014); Naranjo-Valencia and Calderon-Hernández (2018); Thokozani (2017); Suharnomo (2017). Another finding is that there is a curvilinear relationship, although non-significant, between the strength of culture and organisational performance. The optimal level of cultural strength in terms of effectiveness and performance is the level of moderately strong cultures. From this sample and the given constraints, we suggest that the three strength groups of culture do not differ from each other. Whereas significant differentiation was not noted among strong, medium, and low-strength cultures, we highlight that in Greek public organisations, strong cultures do not allow innovativeness (Sahinidis and Kanellopoulos 2010; Xanthopoulou and Sahinidis 2022) and prevent units from being effective and improving their service quality, efficiency, and overall performance. A conscious effort is of great importance in changing an organisation. Change is much more challenging to implement in a public organization due to the entrenched barriers which stifle many change initiatives. Conscious and intentional efforts are necessary to bring about the required changes in the existing cultures. These initiatives might involve social campaigns, education, and continuous training.

The results of the present study have implications for both researchers and practitioners. The findings of this study also aim to help managers of public organizations consists initially in understanding the concept of culture and the ways in which it affects the operation of an organisation. By maintaining a culture of moderate strength and observing developments both in the organisation's external environment and internally, managers can control, to some extent, the organization's culture or even change it. Using various methods and despite the objections of anthropologists, there are many who believe in the possibility of changing the culture of an organisation. By selecting executives with the desired values and beliefs and systematically reinforcing their behavior with pay, promotions, training, and other benefits, managers can create long-term patterns on which the desired culture will be based. Given the pressing need for improvements and reforms in public administration institutions, the results are especially significant at this time, where reforms such as digital government underline the need for a more innovative and flexible organisational culture.

Among the limitations of the current research, it should be initially stated that organisational culture is a broad term that encompasses a large number of dimensions, levels, and aspects, which makes it a difficult concept to measure and statistically analyse. Also, the sample of this study is not random, as the snowball sampling method is used. The randomness of the sample would allow conclusions to be drawn regarding the total population, which is not the case in the present study. The choice of using an online questionnaire leads to the problems faced by all surveys that use this method. These include a lack of flexibility in answering questions, recording only the participant's verbal behavior, the lack of control of the respondent's environment, and incompletely answered questionnaires. In addition, the sample used in this research includes public organisations with different missions, so it is difficult to compare them in terms of culture, efficiency, or degree of effectiveness. Finally, it would be interesting to look at the results of similar research in public organisations in other nations. Summing up, without having ensured the validity of the results of this study, due to the limitations mentioned above, the main conclusion reached by the researchers is that the area of organisational culture, especially in the case of the public sector, where not much research is done on how culture affects the performance, needs further investigation.

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