Culture for Quality – An Empirical Examination in Israel.

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Abstract

This study examines the relationship between organizational culture, standards of quality management, and performance in the public sector. We ask whether effective implementation of quality related change leads to better organizational performance and higher citizens-as-customer satisfaction. A theoretical model is suggested and examined empirically in a field study of 103 units from 12 public organizations in Israel. Hierarchical Linear Models (HLM) statistics are used to examine several hypotheses about the relationship between organizational culture, standards of quality management, and performance. The findings of this study support the hypotheses regarding the role of public organizational culture in quality improvement processes. Specific cultural values were found to add to organizational performance, and these were also affected by the type of quality process implemented in the unit. Implications of the findings for public organizations are discussed theoretically and methodologically.

Keywords: Culture, Performance, Quality Implementation, NPM.

Introduction

The theoretical framework of this study is New Public Management (NPM), an approach formulated by Hood (1991). This administrative approach presents ideas as to how the public sector should operate. NPM encourages the use of experience that already exists in the private sector and in other public sector disciplines to improve efficiency, effectiveness and general performance in the public sector (Vigoda, 2000; 2003). The approach is a result of reforms instituted the 1980s, such as quality reforms and privatization (Maesschalck, 2004), and customer orientation (Sanderson, 2001; Vigoda, 2002). It has become common to adopt performance improvement techniques as part of those reforms (Brignall & Modell, 2000). We must also remember that the organizational culture plays an important role and influences the implementation of these reforms (Heinrich, 2002).
These changes have led to repeated adjustments in the public sector both in management culture and systems. The changes have included changes in goals, in social values and in public institutions. Many studies have demonstrated the theoretical approaches to organizational changes, particularly in the public sector. These studies have found that both the manager and human resources make an important contribution to change (Fernandez & Rainey, 2006). Peters & Waterman's (1982) research focused on the importance of values shared among members of the organization as essential to the success of the change in public organizations. Another aspect that is vital to the success of changes in the public sector is learning from business organizations by combining technology and work processes which also affect the values of the organizational members and lead to success of the change (Kernaghan, 2003).

There is a global trend in the public and private sectors as organizations seek performance management systems that will match the existing infrastructure. This trend has appeared in Israel in the last two decades and efforts have been made to encourage organizations to adopt techniques and tools to help them manage quality and achieve excellence in performance. These systems combine tools and techniques to manage the content, quality and performance measurement processes (Cole, 1999). When the the quality of implementation is high, these systems lead the organization to constantly improving performance (Spencer, 1994). However when implementation fails, this may affect organization performance negatively (Beer, 2003). Thus, there is a need to examine what factors help the successful implementation of quality-based performance management systems in organizations. It appears that few studies have examined the factors that affect the quality of implementation of these systems in public organizations.

In this study we will examine how the culture "becomes ready" to implement quality and excellence processes (such as ISO, quality improvement teams and EFQM) (Prajogo et al., 2005) and what impact implementation has on the organizational performance. The "maturity" of organizational culture is directly linked to its core values (Dennison, 1984). Wide research literature exists on the relationship between organizational cultures and performance (Marcoulides et al., 1993; Henri, 2006; Nahm et al., 2004), including reference to the type of organizational culture which contributes to organizational performance. However, no study has examined the role of successful implementation of performance management systems based on quality and excellence on these relations. We assume that when specific values (to be presented later) are strong, the implementation of a quality performance management system based on quality and excellence will also be strengthened and will improve organizational performance.

This research will contribute to the theoretical literature by explaining at least a measure of
the interrelationship between organizational culture and performance in terms of the success of implementing a performance management system based on quality and excellence. To date, the research literature has only offered alternative explanations regarding the factors contributing to this relationship. These include the internal or external environment of the organization, the presence or absence of resources, and, of course, factors like management style and organizational commitment. The role of the success of implementing a performance management system based on quality and excellence in understanding this relationship, is important, given the substantial focus on organizational quality and excellence in the literature. A theory that explains the contribution of culture strength to performance by focusing on successful implementation of a performance management system can offer an additional dimension to the study of organization performance.

The practical contribution of the research is that it provides a diagnostic tool to be used by organizations to examine the strength of their organizational culture and values before implementing a performance management system based on organizational quality and excellence in order to ensure that implementation quality is high, which will contribute to organizational performance. This tool will help managers in general and quality managers in particular in their decision to implement such systems and when building the organizational infrastructure needed to improve organizational performance.

**Background and Theory**

**Quality Management in Organizations**

In recent years, quality management has become a vehicle for organizations to achieve competitive advantage in the local and global arena (Anderson et al., 1995). The assumption in quality management is that the organization must produce products and services of the highest possible quality (Connor, 1997). Thus, in the last century there has been a growing interest in the issue of quality management in organizational theory and practice (see: for example, Carr & Littman, 1993; Cohen & Brand, 1993). The research literature agrees that proper implementation of a quality and excellence based management system can drastically affect company performance (Deming, 1986; Juran, 1989; Hackman & Wageman, 1995). Two important studies recently focused on the relationship between quality and excellence based management systems and performance (Hendricks & Singhal, 1997; 2001). In both studies, quality appears to make a central and important contribution to long term organizational performance. This leads to the suggestion that implementing a performance management system based on quality and
excellence is a long term process requiring the support of management and the organizational culture (Beer, 2003). In his theoretical research, Beer (2003) investigated why organizations’ efforts to implement quality processes fail. He concluded that blame does not lie with management philosophy but with managers’ motivation to lead such a process throughout the organization and in the organizational values which are unsuited to the proposed implementation. However, these claims have not been tested empirically.

Despite the growth in the quantity of research on quality management and its influence on organization management performance, few studies have focused specifically on examining quality management practices (e.g., quality improvement teams, presentation of statistical data to management and staff as a way of monitoring performance, quality processes, staff involvement in organizational processes, and EFQM) (Flynn et al., 1994). The research of Saraph et al. (1989) differs as they provide a model of quality management practices with valid and reliable measurement techniques for measuring successful implementation of these practices. Their instrument enables general managers and, above all, quality managers, to measure organizational growth and the stage of implementation of each quality practice separately. However, as the measurement by the general manager or quality manager may provide biased results, as he/she is assessing his/her own organization, other stakeholders such as the workers or customers should be included in measuring the success of implementation of a quality and excellence based management system in the organization (Flynn et al., 1994). Therefore, researchers have tried to find quality management systems that include less biased assessment processes already embedded in the system itself. For example the ISO system includes assessment of adherence to ISO standards by stakeholders outside of the organization (e.g., The Standards Institution). Adopting such standards has been shown to focus the organization on achieving quality objectives and performance and improving customer satisfaction (Meirovich et al., 2007). However, no research has examined the factors contributing to the successful implementation of quality and excellence based management systems in general (Bou-Llusar et al., 2003; Davies et al., 2007; Deshpande et al., 1993; Deret et al., 2000) and the contribution of organizational culture to such success in particular. This research therefore proposes to investigate whether the “strength” of an organizational quality culture, in terms of the dominance of certain quality related values, influences the success of the implementation of a quality and excellence based management system and thus enhance different aspects of performances within the organization.

**Organizational Culture and Values**

No clear consensus is found in the literature as to the definition of organizational culture
Most researchers in this field adopt Schein’s definition (in Jones et al., 2005) which suggests that organizational culture is a pattern of basic assumptions shared or accepted by an organization’s members (Schein, 1992). This enables organization members to interpret and shape organizational reality in the same way (Pettigrew, 1979). Schein (1992) used the metaphor of an onion with three layers to explain the meaning of organizational culture where the outer layer represents artifacts, the inner layer represents values, and the innermost layer represents the basic assumptions that are often unconscious.

This research will focus on the values layer. This layer includes the values that reflect organizational orientation and the culture’s stability in adapting to organizational change in general and to implementing a performance management system based on quality and excellence in particular. When implementing a management system based on quality and excellence aimed at constantly improving performance, it is important to consider which values can contribute to the success of the implementation of such a system. A large body of research in the literature examines the cultural values needed at times of change (Kotter, 1996; Jones et al., 2005 & Schein, 1992). However, no study deals with the specific values that are especially important when implementing a quality and excellence based management system. A change that involves implementing a performance management system based on quality and excellence, differs from other organizational change for several reasons: (A) In contrast to other management dictated changes, this type of change is generated from within and depends on staff openness to critically examine their own performance, (B) The nature and pace of change depends on the organization's employees compared with other changes where pace is decided by management, (C) The employees examine the success of the change involving implementation of a performance management system based on quality and excellence whereas other changes are examined by strategic stakeholders.

An example of a value likely to contribute to the quality of implementing a management system based on quality and excellence is transparency. An organization which does not have transparency will have difficulty advancing a process that expects all employees to be exposed at the same time to important information which will help learning processes that will lead to organizational change as the quality model suggests (Bou-Llusar et al., 2003).

The next section examines the values we claim are essential to such quality related change. The three values are: quality values, transparency, teamwork quality and customer orientation. The last two values have been theorized by Deming (1986) as being important in implementing philosophies of quality.
Quality Values

This study argues that strong quality-based values in an organizational culture will improve the implementation quality of performance management systems based on quality and excellence. A "strong" value has been defined by Anjard (1995) as a value that is articulated on a high level in the organizational culture. Although this may sound obvious, several values associated with quality can contribute more than others. Among these are the quality of teamwork, and customer orientation.

Since most of the application process is done by managers and employees, it seems that teamwork is necessary for implementation of quality processes. Today complex organizations place a high value on the potential of teams for innovation, for problem solving and for implementing changes (Nembhard & Edmondson, 2006). Teamwork is known to have many benefits, such as increasing productivity and creativity, and increasing employee satisfaction. It is well known that employees who are team members cope with new situations more successfully and are capable of doing things better. In other words, they take on jobs that have changed innovatively in ways that improve their performances (Rousseau et al., 2006). From a review of studies on the benefits of teamwork on organizational performances it seems that teamwork contributes to organizational effectiveness in four main areas: perceptual, behavioral, operational and financial (Delarue et al., 2008).

Thus, teamwork plays an important role in organizational performance. However, it appears that sometimes even when the members of the organization do not work as a team, teamwork may still be a value in the organizational culture. In fact, cognitively and emotionally, the individual should be motivated to join a team so that team thinking and team commitment exist even before the individual has joined the team (Lembke & Wilson, 1998). Turner (1987) adds that the process in which the individual becomes a member of the team is an organized cognitive and emotional process. Thus, a situation may exist in which the individual is not a member of a team but thinks and acts out of team vision. Anjard (1995) argues that teamwork is essential to the organization's cultural architecture and is a condition for the successful implementation of models of quality. There are studies that highlight the difficulty in making a distinction between the mere existence of actual practice among organization members and the existence of an organizational culture (Homburg & Pflesser, 2000). However, Anjard (1995) found that the existence of significant values is no less important than a high level of actual practice. The value **team work quality** (Team Work Quality-TWQ) is a concept developed by Hoegl et al. (2001) which deals with the relationships that exist among team members. They claimed that relationships are an artifact of six aspects: communication, coordination, balanced contribution
of team members, mutual support, solidarity and effort. These provide a means to measure the quality performance of the teamwork and its effectiveness. They also proved that when the level of these aspects improves, the quality of the teamwork performance rises (Guzzo & Shea, 1990; in: Dunnette & Hough, 1992). Each team member contributes his talents and his personal best to achieve success of the application. The success of the implementation is affected by the quality level of the teamwork that is achieved. Therefore, the hypothesis we have suggested is as follows:

**H1.a:** A positive relationship will be found between the dominance of the organizational value of teamwork quality and the quality of implementing a performance management system based on organizational quality and excellence

The purpose of a performance management system based on quality and excellence is not only to improve the quality of the products, but also to improve customer service (Dean, 2007). **Customer orientation** has been proposed by Deshpande' et al. (1993) as a set of beliefs that emphasizes the needs of the customer over and above others, without ignoring other stakeholders' needs, such as those of owners, managers and employees. This concept emphasizes the long range while understanding that focus on the customer is one of the basic assumptions of the organizational culture. In organizations where the cultural orientation is based on customer needs, a higher performance level can be found (Homburg et al., 2000). This argument relies on Kotter & Heskett (1992) who found that organizations in which the culture was oriented towards customers, employees and owners, with strong leadership, demonstrated high long term performance. Dean's (2007) study showed a positive relationship between high customer orientation and quality service. Therefore, it seems that the value of being customer oriented may be important when implementing a performance management system based on quality and excellence. The hypothesis we have suggested is:

**H1.b:** A positive relationship will be found between the dominance of the organizational value of customer orientation and the quality of implementing a performance management systems based on organizational quality and excellence.

**Learning Values - Transparency**

The learning culture of an organization constitutes a culture with strong values of investigation, openness, and trust (Argyris & Schon, 1978). Popper & Lipshitz (1998) identified five hierarchically organized values relating to organizational learning: continuous learning, valid information, transparency, issue orientation, and accountability. Learning that improves
performance requires complete and valid information which is not distorted. Obtaining valid information increases the likelihood that no one will be tempted to manipulate the information (Argyris & Schon, 1978). One of the aims of continuous learning is a continuous effort to improve the objectivity of information available after control by the mechanisms of culture and socialization (Popper & Lipshitz, 1998). However, in order for the information to be valid it must be available to everyone so the value of transparency is essential. **Transparency** is the willingness to hold oneself open to inspection in order to receive feedback. Transparency serves the attainment of valid information by allowing others to (a) add information and (b) offer different interpretations for valid information. Organizational design which allows everyone to clearly see how things are done and understand the role of each action is an expression of transparency (Prokesch, 1997). Transparency is also the ability of the organization to clarify what the product or service that it provides is, how it is to be provided and the costs (Bruijn, 2002).

Transparency is a key tool for examining organizational performance. With transparency the public sector expresses its openness to audit of its performances by internal and external bodies (Koppell, 2005). Research conducted on organizational learning by Larsson et al. (1998) indicated that the value of transparency, together with acceptance are the basic conditions for a partnership among stakeholders and they are the ones who will improve the learning process. Therefore, the value of transparency in the organizational culture is a condition of learning processes and partnerships. In addition, it must be remembered that one of the manager's main tasks in a learning organization is to expose failures and effectively encourage objections. This requires willingness to display and to evaluate information without being affected by irrelevant aspects such as status or rank. The type of change that is examined in this study, requires that some of the principles of the quality model, such as strict attention to full transparency will be applied throughout the process from planning to implementation. The European model of performance management (EFQM), for example, requires a complete self-assessment once a year to enable the organization to make improvements. Therefore, the value of transparency is likely to be helpful for successful implementation in a variety of organizational units and that is why, from the learning values that Popper & Lipshitz (1998) have presented, we have chosen to focus on the value of transparency. We therefore hypothesize that:

**H1.c:** A positive relationship will be found between the strength of the organizational value of transparency and the quality of implementation of a performance management system based on organizational quality and excellence.

**Organizational Performances**

Every organization, public and private alike, is measured on the basis of performance. We can identify a number of organizational performances: financial performance, operational performance quality and customer performance. We have chosen to focus on quality performance which constitutes a central measure of all processes of quality embedded in
organizations of all types, and customer performance which provides an important criterion for organizational performances.

**Customer's performances** are performances related to how customers perceive the organization. Customer perception is currently measured using two main aspects: customer satisfaction and perception of service quality as presented by Brady et al. (2002).

**Customer satisfaction** is defined as customer surprise after the purchase, as this surprise leads to less dynamic behavior of the customer. In fact, Oliver (1980) specified customer satisfaction as influencing the customer's behavior, his/her intentions to purchase and his/her evaluation of the service received. There is a consensus among researchers that customer satisfaction is a positive behavior type that affects the organizational performances and we must foster it (Luo & Homburg, 2007).

Parasuraman et al. (1985) defined service quality as a gap between early expectations of the customer from the service and the service experience itself. Johnston (2004) explained that the service quality constitutes an estimation of the service that the organization provides to the customers. In his opinion, excellence in service is expressed when the organization is considered as keeping its promises; when it provides personal attention and when it gives in-depth attention to problems that arise and to the solutions it provides. Svensson (2004) adds that the customer's perception of quality service is the result of an interactive process that occurs between a customer and the service person when the service encounter takes place. Thus, from a management point of view, we must relate to the quality service as it is perceived by the customer, when the gaps between the customer and the service provider may lead to a negative evaluation of service quality and may affect its profitability.

**Quality Performances** are the various operational and managerial performances that organizations are inclined to measure. Flynn et al. (1995) point out that the organization outcomes can be considered quality performance in accord with Garvin's (1988) approach. However, they suggest relating to aspects such as service quality / product and service quality of the organization in relation to results that are achieved by competitors. In their opinion, quality of performance contributes to creating a competitive advantage for the organization (Flynn et al., 1995). In contrast, Saraph et al. (1989) define quality performance as a level of results in several dimensions that exist in the organization. They proposed an eight dimensional model that they feel are necessary to measure the quality in organizations. These dimensions are: leadership, training, product design, service, management processes, quality of data and reporting, employee relations, quality management and quality department role. Using these, we can obtain an image of organizational quality performance. This research will focus on three types of quality
performance: leadership, quality of data and reporting, employee relations.

**Leadership** refers to the role that the manager takes in designing quality policy and his/her involvement in efforts to improve, particularly regarding quality (Saraph et al., 1989). It seems that the manager plays a significant role in quality processes and other researchers such as Flynn et al. (1995) attach importance to his/her influence. The model developed by Flynn et al. (1995) positions managerial support and involvement in infrastructure quality as necessary to implement quality practices. Naor et al. (2008) found that this makes a significant contribution to the quality performance of the organization.

**Quality data and reporting** is an expression of the degree to which use is made of quality measures when using information. It seems that the quality of information is determined by the measure to which the information helps managers and employees in decision-making and problem solving, measurement quality and evaluation of quality performance of employees and managers (Saraph et al., 1989). Flynn et al. (1995) related to the quality of information as a core process necessary for implementing quality practices. Naor et al. (2008) found that quality data makes a significant contribution to the performance quality of the organization. Chung et al.'s (2008) research also examined the contribution of quality information as a quality practice and they found it to be a positive factor affecting an organization's operational performances.

**Employee relations** reflects the organization's ability to integrate employees in quality circles, the ability to include employees in decision-making related to quality and to maintain staff accountability on quality issues. The employees are focused on quality processes initiated in the organization while recognizing the importance of quality performance (Saraph et al., 1989). This aspect of involvement and commitment of employees to quality were also examined by Flynn et al. (1995) and it would seem that this attitude of employees regarding quality issues importantly contributes to the organizational performance.

**Organizational Culture and Performance**

In terms of the role of organizational culture in organizational performance, it is regularly maintained that organizations with a “strong culture” due to efficient integration and an effective system of specific values, beliefs, and behavior patterns will function and perform at a very high level (Balthazard et al., 2006; Denison et al., 1995; Dennison, 1984). Bates et al. (1995) discovered that organizational culture can be a key factor in developing and implementing organizational strategies, and that culture plays an important role in determining the success or failure of mergers and acquisitions (Weber et al., 1996). Nevertheless, to the best of our knowledge, no research has examined the contribution of organizational culture to a combination of organizational results: quality performance and customer-oriented performance (satisfaction).
The cultural values proposed above may be linked to good performance in a wide range of organizational results. For example, the “customer focus” value will lead the organization to seek ways to fulfill customer expectations, thus increasing customer satisfaction. Likewise, when this value is strong it will attract new customers which in turn boosts financial results. We can therefore hypothesize that the organizational values proposed above will be linked to quality performance, customer-related performance, and financial performance. Thus we hypothesize that

H2: There will be a positive relationship between the strength of organizational values: teamwork quality, customer orientation and transparency; and customer satisfaction.

H3: There will be a positive relationship between the strength of organizational values: teamwork quality, customer orientation and transparency; and quality performance.

Organizational Culture, Quality of Implementation of a Performance Management System, and Organizational Performance

Hendricks & Singhal (1997;2001) examined the link between the implementation of total quality management (TQM) and organizational performances (financial and operational). They found a positive relationship between them. Saraph et al. (1989) claimed that in an organization which operates a TQM program effectively in all units, will be able to identify high quality performances. The indicators they identified are: leadership, the role of the quality manager in the unit, training, product / service design, management processes, quality of information and working relationship.

We argue that it is important to examine the contribution of quality of implementation of a performance management system on all organizational performances in order to receive a holistic view of the organization. In this study we have examined customer satisfaction and quality of performances. Thus we hypothesize that

H4: There will be a positive relationship between quality of implementation of a performance management system and organizational performances(customers satisfaction and quality of performances: leadership, quality of data and reporting, employee relations).

Over the years the literature has shown a positive relationship between organizational culture and organization performance (Marcoulides et al., 1993; Henri, 2006; Nahm et al., 2004). Other studies have examined the link between organizational performance and the implementation quality of systems based on quality and excellence and have found a positive relationship between them (Benson et al., 1989; Brady et al., 2002; Hendricks et al., 1997; Saraph et al.,
1989). But, no research has examined the effect of successful implementation of performance management systems based on organizational quality and excellence on the relationship between culture and performance. We claim that the success of implementation of a performance management system based on quality and excellence will have such a mediating effect for several reasons. First, it creates a common organizational language related to quality. Second, it requires developing joint quality goals. Third, it produces goal- and measurement-based work plans and finally it requires periodic assessment and objective examination by outside parties. Theses aspects can develop only when the foundations of the quality and learning organizational culture are strong and at the same time these aspects have an impact on organizational performance. Thus, we hypothesize that

H5: The level of implementation of a performance management system based on quality and excellence will mediate the relationship between organizational culture and quality performance and customer satisfaction.

Culture, quality of implementation and performances: Model and hypotheses

Insert Figure 1 about here

Method

Sample and procedure
A cluster sample of Israeli public sector units was used in this study. The sample consisted of 103 units representing 12 Israeli public organizations including: hospitals, public offices and the army.

Data collection was conducted between February 2008 and February 2009 and was based on a field survey. Our survey method included four types of questionnaires that were distributed to employees (culture values), customer's satisfaction, unit managers (quality if implementing quality program) and organization quality of performances. We located units that implemented various quality programs: e.g., improvement teams, ISO (International Organization for Standardization), the appointment of a quality manager and EFQM (European Foundation for Quality Management).

Variables
Independent variables
In this study we focused on three cultural values: teamwork quality, customer orientation and transparency.

**Teamwork quality** was defined based on Hoegl et al. (2001: p.436) as a comprehensive concept of the quality of intersections in teams. A questionnaire based on Hoegl et al. (2001) examined the level of team quality in the unit. The items were measured on a scale from 1 (do not agree at all) to 7 (always agree). Sample items are: (1) the team members were happy with the usefulness of the information received from other team members; (2) discussions and controversies were conducted constructively; Reliability of the scale was .92.

**Customer orientation** was defined, based on Deshpande' et al. (1993: p.27) as the set of beliefs that puts the customer's interest first. A questionnaire based on Miron et al. (2004) examined the level of customer orientation in the unit. The items were measured on a scale from 1 (do not agree at all) to 7 (always agree). Sample items are: (1) customer requirements are the basis for setting quality levels for services; (2) changes in customers' needs influence the solutions given; Reliability of the scale was .72.

**Transparency** was defined, based on Prokesch (1997: p.162-3) as the willingness to hold oneself open to inspection in order to receive feedback. A questionnaire based on Ellis et al. (1999) examined the level of transparency in the unit. The items were measured on a scale from 1 (do not agree at all) to 7 (always agree). Sample items are: (1) unit members tend to sweep their mistakes under the rug; (2) when unit members fail to meet targets they prefer to keep it to themselves; Reliability of the scale was .69.

**Dependent variables**

**Customer satisfaction** - This variable was defined, based on Oliver (1980: p.460) as the surprise a customer experiences after a purchase and that this surprise eventually becomes an input to a less dynamic attitude. A questionnaire based on Brady et al. (2002) examined the level of customer satisfaction with the unit. The items were measured on a scale from 1 (worse than I expected) to 9 (better than I expected). Sample items are: (1) the reliability, consistency and dependability of the employee were…; (2) the competence of the employee was…; Reliability of the scale was .95.

**Quality performance** – This variable was defined, based on Saraph et al. (1989:p.818) related to 3 variables: quality of data and reporting, employee relations and leadership.

**Quality data and reporting** – This variable was defined, based on Deming (1986) as using statistical methods to improve quality continuously. A questionnaire based on Saraph et al. (1989) examined quality of information in the unit. Items were measured on a scale from 1 (very low) to 5 (very high). Sample items are: (1) availability of cost of quality data in the division; (2)
extent to which quality data, control charts, etc. are displayed at employee work stations; Reliability of the scale was .82.

**Employee relations** – This variable was defined, based on Deming (1986) as removing all barriers to worker's pride in a working relationship. A questionnaire based on Saraph et al. (1989) examined the working relationships in the unit. Items were measured on a scale from 1 (very low) to 5 (very high). Sample items are: (1) extent to which quality circle or employee involvement type programs are implemented in the division; (2) extent to which employees are held responsible for error-free output; Reliability of the scale was .80.

**Leadership** – This variable was defined based on Deming (1986) as management's permanent commitment and obligation to implement a new philosophy towards defects, mistakes and defective materials. A questionnaire based on Saraph et al. (1989) examined the quality of leadership of the manager unit. Items were measured on a scale from 1 (very low) to 5 (very high). Sample items are: (1) specificity of quality goals within the division; (2) degree of comprehensiveness of the quality plan within the division; Reliability of the scale was .89.

**Mediator variable**

**Quality implementation of the model for managing performance based on quality** – This variable was defined, based on Santos-Vijande et al. (2007:p.23) as excellent results with respect to performance, customers, people and society which are achieved through leadership driving policy and strategy that is delivered through people, resources, and processes. A questionnaire based on the EFQM questionnaire (EFQM, 1999) examined the level of achievement for each of the nine criteria of the EFQM model in each unit. The items were measured on a scale from 1 (didn't start yet) to 5 (completely achieved). This questionnaire was validated in the past by Santos-Vijande and Alvarez-Gonzalez (2007) and received both high reliability and validity. Sample items are: (1) leaders personally assess the application and progress of total quality principles; (2) resources are allocated to achieve strategic objectives; Reliability of the scale was .88.

**Control variable**

As we were interested in the relationship between culture, implementation, and performance beyond such influences as unit size, type of technique of quality that the unit implements, terms of implementation, and the manager's period of service as manager of the unit, we controlled for these variables: **Unit size** is measured by the number of employees in the unit. **Type of quality** that the units implement is measured by the following categories: EFQM, ISO, improvement team.
Data analysis

In order to examine the research hypotheses we used Hierarchical Linear Modeling as we had to take into consideration the fact that the units under examination are nested in different organizations. HLM takes into consideration that units from the same organization can be more similar to each other than units in different organizations (Bryk & Raudenbush, 1992). We will use the SAS procedure proc Mixed to fit the HLM model which will enable us to model both unit and organization level variances. We used Bauer, Preacher and Gil's (2006) method for analyzing moderated mediation in multilevel models.

Findings

The means, standard deviations, and correlations among the variables are displayed in Table 1.

Insert tables 1-4 about here

Before testing the hypotheses we examined a model with only the control variables. Model 1 and 3 (Table 2), Model 5 (Table 3), Models 7 and 9 (Table 4) are models which examine the relationship between the control variables and each of the dependent variables. This step was important so that when we examined the impact of the independent variables and the mediator on each dependent variable, we could show that the effect was above and beyond the effect of the control variables. In addition, in each model we examined the estimate for the organization's random variance. This estimate was not significant, indicating that no differences between organizations affect organizational performances (customer satisfaction and quality performances: leadership, quality of data and reporting, employee relations).

Hypothesis 1a predicted a relationship between the dominance of the organizational value of teamwork quality and the quality of implementing a performance management system based on organizational quality and excellence. As can be seen in Model 2 of Table 2, team work quality had no significant impact on quality of implementing a performance management system based on organizational quality and excellence.

Hypothesis 1b predicted a relationship between the dominance of the organizational value of customer orientation and the quality of implementing a performance management system based on organizational quality and excellence. As can be seen in Model 2 of Table 2 customer
orientation had no significant impact on quality of implementing a performance management system based on organizational quality and excellence.

Hypothesis 1c predicted a relationship between the dominance of the organizational value of transparency and the quality of implementing a performance management system based on organizational quality and excellence. As can be seen in Model 2 of Table 2 transparency had a significant positive impact on quality of implementing a performance management system based on organizational quality and excellence (Estimate = 0.28, p<0.05). This model was significantly different from the model including only the control variables (Δ-2loglikelihood= 0.171, p<0.01) indicating that quality implementation is significantly related to transparency above and beyond the control variables.

Hypothesis 2 predicted a relationship between the strength of organizational values: team work quality, customer orientation and transparency; and customer satisfaction. As can be seen in Model 4 of Table 2 only team work quality had a significant positive impact on customer satisfaction (Estimate = 0.62, p<0.05). This model was significantly different from the model including only the control variables (Δ-2loglikelihood= 0.171, p<0.01) indicating that customer satisfaction is significantly related to team work quality above and beyond the control variables.

Hypothesis 3 predicted a relationship between the strength of organizational values: team work quality, customer orientation and transparency; and quality performance measured by leadership, quality data and reporting, and employee relations. As can be seen in Model 6 of Table 3 only team work quality had a significant positive impact on quality data and reporting (Estimate = 0.25, p<0.05). This model was significantly different from the model including only the control variables (Δ-2loglikelihood= 0.169, p<0.05) indicating that team work quality is significantly related to quality data and reporting above and beyond the control variables.

Hypothesis 4 predicted a positive relationship between quality of implementation of a performance management system and organizational performances (customer satisfaction and quality performances: leadership, quality data and reporting and employee relations). As can be seen in Model 8 of Table 4 quality implementation had a significant positive impact on leadership (Estimate = 0.24, p<0.01). This model was significantly different from the model including only the control variables (Δ-2loglikelihood= 0.136, p<0.05) indicating that quality implementation is significantly related to leadership above and beyond the control variables. As can be seen in Model 10 of Table 4 quality implementation had a significant positive impact on quality data reporting (Estimate = 0.15, p<0.05). This model was significantly different from the model including only the control variables (Δ-2loglikelihood= 0.087, p<0.05) indicating that quality implementation is significantly related to quality data reporting above and beyond the
control variables.

Hypothesis 5, posited that the level of implementation of a performance management system based on quality and excellence will mediate the relationship between organizational culture and quality performance and customer satisfaction. However as the cultural values related to quality of implementation were different than those related to the performance measures, there was no relationship to mediate.

Discussion and Implications

This study examined the impact of organizational culture on an organization's ability to implement a performance management model based on quality and excellence, in public organizational units and whether implementation leads to improved performance of public servants and higher satisfaction of citizens as clients.

The study examined organizational units from 12 different organizations: government ministries, health institutions and the army. These units are affected by the quality reforms which are now being applied in the public sector in Israel. These reforms are based on a decision enacted in 2001 by the State Service Commission, to adopt the European model of performance management (EFQM) public systems in addition to other quality techniques, such as ISO, quality improvement teams and the appointment of office quality managers. The findings show that the level of implementation/organizational performance is not affected by the type of organization. This indicates a high degree of generalizability of findings above and beyond any particular organization in the public sector.

We hypothesized that there would be a positive relationship between the strength of the organizational values: team work quality, customer orientation and transparency; and the level of implementation of a performance management system based on quality and excellence. Up to now studies which have dealt with the contribution of culture to the quality of implementation focused on types of cultures rather than identifying specific values (Henri, 2006; Marcoulides et al., 1993; Nahm et al., 2004).

Regarding customer orientation, we did not find any link to the quality of implementation. This is surprising and it is contradictory to the approach of Deshpande’ et al. (1993). In addition, we did not find a link between team work and the quality of implementation. This contradicts Anjard's (1995) approach, claiming that team work is an essential value of the cultural
architecture of the organization and is a condition for the success of implementing models of quality.

Another hypothesis was that a positive relationship would be found between strength of cultural values: team work quality, customer orientation and transparency; and customer satisfaction. In reality, we found that there was a link between the strength of the value of team work quality and customer satisfaction. This finding is innovative because, up to now, research has investigated the contribution of the implementation of team work on organizational performance (Rousseau et al. 2006; Delarue et al. 2008) while our research has found that the very existence of the value itself contributes to customer satisfaction. When we examined the values of customer orientation and transparency, we did not find a link between these and customer satisfaction. This is in contrast to the views of Dean (2007) and Homburg et al. (2000) which highlight the importance of customer orientation in the organizational culture in relation to organizational results. However, this finding can be partly explained by the approach of Lengricks-Hall's (1996) research, which argues that understanding the needs of the client is significant and important to organizational performance rather than the value of customer orientation.

Another important finding was related to the link between cultural values: team work quality, customer orientation and transparency; and quality of performance. We found a link between team work quality and the quality of data and reporting which partially confirmed the research hypothesis. This finding can be explained by the research of Hoegl et al. (2001) dealing with mutual relations between team members which contribute to organizational performance, and in this case, the quality of data and reporting. The more effort and coordination between the members of the team, the higher the quality of data and reporting will be.

We also examined the relationship between the quality of implementation of a performance management system based on quality and excellence and organizational performances: customer satisfaction and quality of performance (quality data and reporting, leadership, and employee relations). We found that the higher the quality of implementation the more performance quality increases. This finding reinforces the findings of Hendricks & Singhal (1997) indicating that the higher the quality of implementation, the higher the operational performance of the organization will be. Although their research dealt with operational performance, we can conclude that the same contribution will be obtained when we discuss quality of performance.

Finally at the basis of the proposed model of this study was the hypothesis that the quality of implementation will mediate the relationship between cultural values and organizational performances. Although we found a link between transparency and the quality of
implementation, and between quality of implementation and quality of performance (leadership and quality data and reporting), because we did not find any relationship between transparency and quality of performances we could not examine a mediating relationship. In fact, this research indicates that there are values that are related to the implementation level of quality and excellence models, and other values which are related to customer satisfaction and quality of performance. Specifically, transparency was found to be related to level of implementation of quality and excellence models, and team work quality was found related to customer satisfaction and quality of performances. Although it is clear that organizations will gain from encouraging as many cultural values as they can, importance should be attributed to certain values before implementing organizational changes. In fact, when an organization implements changes, it must make sure that the specific values important for the change exist in the organizational culture.

In sum, this study emphasizes that specific values play a role in the implementation of specific quality programs and on organizational performances. Thus, it is not enough to theorize regarding effective cultures in general but rather to focus on the specific values that affect the type of change or performance the organization strives for.

The main theoretical contribution of this research to the new public management approach (NPM) is in understanding that public administration reforms related to quality processes aimed at the customer's needs and at improving performance management require the preparation of a cultural infrastructure based on the values of quality team work and transparency. It appears that these reforms will only be successful if the values are strong enough to support the process of implementation. This requires a change in the cultural infrastructure of public administration to succeed in carrying out these reforms. In addition, these values have also been found to contribute to customer satisfaction. It would seem that the successful implementation of these reforms can contribute to changing the public's attitude toward the public sector organizations and even increase their competitiveness against alternative services offered by the private sector.

Another contribution relates to the team work quality. Many studies have discussed the importance of teamwork and the contribution of teamwork to the team members and to organizational performances. In this study, we found that nurturing the value of team work quality is of primary importance to organizational performances (customer satisfaction and quality data and reporting). In other words, if you want to improve the performance of the organization it is important to nurture the quality of teamwork in the organizational unit first.

The practical contribution of this research is the tool which was developed to measure the strength of values that exist in a particular organizational unit. Its importance is in its potential to help various organizations which are implementing different quality types to identify the strength
of the values: team work quality, transparency and customer orientation. On a practical level we help organizations to understand that implementing systems of quality and excellence is not enough. Organizations should invest in their cultural infrastructure, in order to implement the model better.

Finally, several limitations of the study should also be mentioned. The ability to generalize the findings beyond Israeli borders is limited considering the unique characteristics of the Israeli public sector. Future research may want to examine whether these findings are apparent in other countries.

Regarding the cultural values investigated: We focused on three values; team work quality, customer orientation and transparency; which have been considered central in the literature concerning the quality of implementation of quality and excellence systems and organizational performances. Actually, choosing to focus on these values means that we have received only an incomplete picture. Therefore, it would be advisable to investigate other values in continuing research, such as initiative, openness to change, standardization and others that are mentioned in the literature as important when introducing changes to the organization.

Performance measures for this research: Because we have chosen to focus on two groups of performances, further research would appear to be necessary referring to the financial performance of the organization in addition to the performances investigated this study.

References


