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IDENTIFYING AN ORGANIZATIONAL CULTURE MODEL/FRAMEWORK TO EFFECTIVELY APPROACH QUALITY MANAGEMENT: A COMPREHENSIVE LITERATURE REVIEW

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Abstract
Quality management (QM) is neither a new concept nor a set of processes or practices. Nonetheless, with rapid global changes across industries and markets, implementing effective QM practices has been more urgent than ever before. Implementing QM practices in any firm or company cannot occur in isolation from the organizational culture of this specific firm or company. There are several models and frameworks that address organizational culture, the most popular of which are the competing values framework (CVF), the Denison model, the organizational culture inventory (OCI), and the organizational culture profile (OCP). The challenge for many researchers is which of these models/frameworks they should use in approaching organizational culture. This paper provides a comprehensive literature review informed by the results of a Boolean search about each of these models/frameworks. This enabled the study to compare and contrast each one of them, providing a set of recommendations and future directions for researchers in this area.

Keywords: *Quality Management, Organizational Culture, Competing Values Framework (CVF), Denison Model, Organizational Culture Inventory (OCI), Organizational Culture Profile (OCP)*

INTRODUCTION

Quality management (QM) was founded almost four decades ago, informed by the core ideas of W. Edwards Deming, Joseph Juran, Philip Crosby, and Kaoru Ishikawa (Sousa and Voss, 2002). QM is argued to be an integrative management philosophy aimed at the continuous improvement of performance (Ebrahimi and Sadeghi, 2013). As a universal management philosophy, QM has found its way into most sectors of today's business society, where many organizations, companies, and businesses have now embedded QM practices into their strategies, tactics, and daily operations and practices (Sousa & Voss, 2002).

In their research on digitalization and QM, Elg et al. (2021) define QM as a set of guidelines that are established to guide any given organization through the best way to execute its operations. In an organization, QM mainly targets critical areas that can impact the customer-organization relationship (Elg et al., 2021). Additionally, organizations rely on QM to integrate their major internal processes with a well-defined protocol for project execution (Elg et al., 2021).

Pertusa-Ortega et al. (2021) perceive QM as a philosophy and management system which include a thread of practices, such as process management, planning, management commitment, and supplier management. These practices are applied and incorporated across various levels of an organization with the common goal of satisfying stakeholders in an organization and improving the undertaken processes and activities within (Pertusa-Ortega et al., 2021).

As asserted by many scholars, QM in an organization cannot be approached in isolation from an organizational culture lens. Patyal and Koilakuntla (2018) categorize QM into core and infrastructural practices, where infrastructural practices refer to people-oriented and cultural practices that are associated with organizational behavior, development, and change as influenced by leadership, management commitment, human resources management, and relations with third-party partners and customers. Additionally, there have been a few studies on the interface between culture and QM (Asif et al., 2009; Baird et al., 2011; Gupta et al., 2005; Lagrosen, 2003), where organizational culture is needed to foster an environment of teamwork and collaboration, maintaining QM practices and achieving organizational goals (Helms, 2009). Accordingly, organizational culture has been viewed as an integral component toward the successful implementation of QM practices across organizations (Antony & Banuelas, 2002; Sinha et al., 2016).

Organizational culture and QM have been well-researched (Al-Khalifa & Aspinwall, 2001; Biswas, 2013; Jabnoun & Sedrani, 2005; Sayyad, 2017). The main challenge that often faces researchers is which organizational culture model or framework should be adopted to effectively approach a QM shift and implement QM practices in a firm or company.

This paper provides a comprehensive review of the four main organizational culture models/frameworks and provides a set of recommendations for the researchers on which model or framework to adopt.

Approaches to Organizational Culture

Jung et al. (2009) note that there are almost 70 instruments that are used for the measurement of organizational culture. The prevalence of such a wide range of conceptual definitions and approaches has led to the lack of an integrated understanding of the phenomenon that underlies organizational culture (Chatman & O'Reilly, 2016). However, the four most common approaches to organizational culture that have been highlighted in the literature are: the competing values framework (CVF), the Denison model, the organizational culture inventory (OCI), and the organizational culture profile (OCP) (Chatman & O'Reilly, 2016).

The Competing Values Framework (CVF)

The Competing Values Framework (CVF), which is considered to be one of the most widely used approaches for measuring organizational culture by practitioners (Cameron et al., 2006) and academic researchers (Hartnell et al., 2011), was initially developed by Quinn and Rohrbaugh (1981, 1983). The CVF is composed of two dichotomous dimensions: control versus flexibility and external locus and differentiation versus internal locus and integration. These two dichotomous dimensions give rise to four quadrants that represent four types of organizational culture: clan, adhocracy, market, and hierarchy (Quinn and Rohrbaugh, 1981). The development of this framework was founded in Campbell's 1977 measurement index intended for organizational climate rather than organizational culture (Ehrhart et al., 2014). Quinn and Rohrbaugh (1981) categorized the indices into three pairs of competing values and stated that these values represented frameworks of organizational effectiveness such as the human relations, the internal process framework, the open systems framework, and the rational gold framework. It can be observed that the authors Quinn and Rohrbaugh (1981) did not provide any justification for grouping the indices in three pairs of competing values as a means of measuring the organizational culture. The below figure (Figure 1) depicts the initial CVF framework.

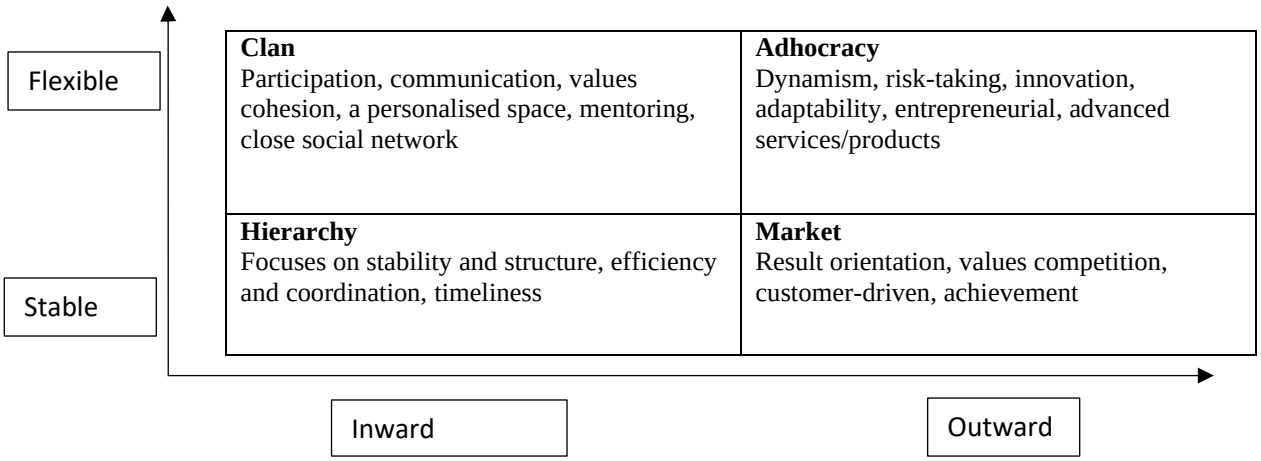

Figure1: The Initial CVF Framework

Source: Quinn and Rohrbaugh (1981, 1983)

The 'clan' quadrant of the CVF represents the rate of team collaboration and social adhesion that is present in the organization (Cameron & Quinn, 2011). In other words, if an organization has a "clan culture", it has generated a strong trust and commitment between organizations which then enhances the loyalty of the employees to the organization (Cameron and Quinn, 2011). The authors have noted that if an organization displays an "adhocracy culture", risk-taking and innovation are favored in the organization with an emphasis on individuality and experimentation. The clan culture and the adhocracy culture focus on integration and differentiation, respectively. Lapiņa et al. (2015) have noted that an ideal culture is a mix of clan culture (internally focused) and adhocracy culture (characterized by innovation and creativity). Such culture is difficult to find as each organization moves through a lifecycle starting from adhocracy culture, clan culture, hierarchy culture, and market culture (Cameron & Quinn, 2011).

If an organization displays the "hierarchy culture", it has a highly structured work environment and efficiency of operations that is often considered a measure of success with an emphasis on regulations and compliance (Cameron & Quinn, 2011). On the other hand, the authors have noted that when a firm has a "market culture", the organization is focused on market-based results such as profitability and outputs in a highly controlled environment where production is maximized by leaders.

Once the initial CVF framework came to be identified with assessing the culture in the organization, it became widely used, investigated, and criticized.

Due to its wide adoption and implementation, the initial CVF framework was further developed and expanded. The initial CVF framework was further developed by Denison and Spreitzer (1991), and such development was adapted by Prajogo and McDermott (2005, 2011) and Cameron and Quinn (2011), where the four CVF quadrants were conceptualized in terms of group, developmental, hierarchal, and rational cultures as displayed by Figure 2.

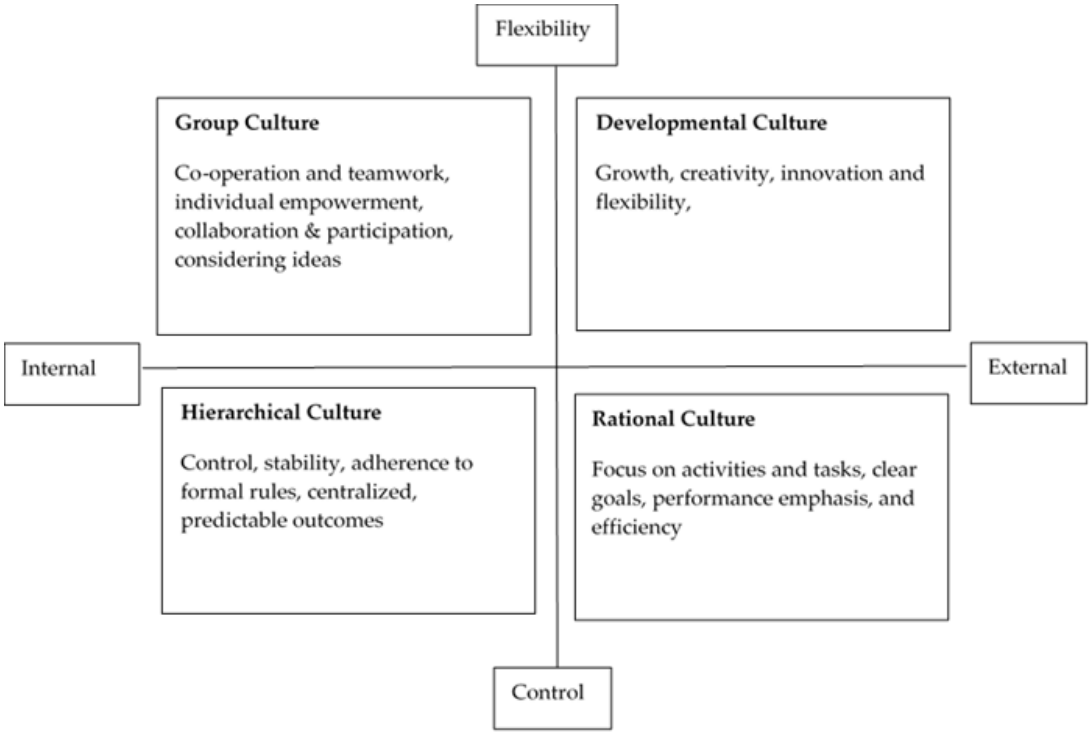

Figure 2: The Four Organizational Culture Quadrants
(Source: Prajogo and McDermott (2005) adapted from Denison and Spreitzer (1991))

Cameron and Quinn (2011) identified that there is a causal link between corporate culture and the way the organization manages its business and operations. They have found that each of these cultural constituents (group, developmental, hierarchal, and rational cultures) exerts a distinct impact on organizational success and transformation (Cameron & Quinn, 2011). Additionally, Cameron and Quinn (2011) argue that these four CVF quadrants serve as indicators of effectiveness in terms of an organization's performance towards a holistic QM approach. Complementing Cameron's and Quinn's (2011) work, Prajogo and McDermott (2011) investigated the relationship between these four cultural constituents and an organization's QM in terms of the quality of products, services, processes, and practices. Their study found that in reference to organizations, QM depends on certain cultural traits, keeping in mind that different organizations possess different organizational cultures that need to be adequately considered for effective implementation of QM practices (Prajogo & McDermott, 2011).

The Denison Model

The Denison model was developed by Denison and Mishra (1995) as a means of establishing a link between the organizational culture and organizational effectiveness. They define culture as the "underlying values, beliefs, and principles that serve as the foundation for an organization's management system as well as the set of management practices and behaviours that both exemplify and reinforce those basic principles" (Denison, 1990, p.2). Denison (1990) developed four traits that signify either a weak or a strong organizational culture. The strength of the organizational culture has been noted to be related to how effective the organization is (Boyce et al., 2015).

The four traits of the organizational culture, as defined by Denison (1990), are adaptability, involvement, mission, and consistency (Denison, 1990; Denison & Neale, 1996; Denison et al., 2012). Adaptability refers to the flexibility that is developed in the organization to respond to changes at the market and customer level. Involvement, on the other hand, refers to the extent of the participation that employees have in terms of decision-making and team orientation. Mission refers to the degree to which the organization's objectives are made clear to the employees, and a shared purpose is generated. Finally, consistency refers to the rate of alignment of the beliefs and values of the employees and the organization.

Boyce et al. (2015) stated that when an organization has a strong mission and high rates of the other three traits (involvement, adaptability, and consistency), it signals a strong organizational culture that is representative of high organizational effectiveness.

The internal consistency and validity of this framework have been tested across various research studies and have been found to be satisfactory (Denison et al., 2014; Fey & Denison, 2003; Kotrba et al., 2012).

The Organizational Culture Inventory (OCI)

The "Organizational Culture Inventory" (OCI) was developed by Cooke and Szumal (1993), who adopted the "Life Styles Inventory" scale established by Lafferty (1973) for developing an understanding of why employees behave in dysfunctional manners. The basis for the OCI was founded in clinical psychology, human motivations and needs, and leadership styles (Cooke & Rousseau, 1988), and it represents the employee-level focus of this framework.

In comparison to the Denison model and the CVF, the OCI is embedded in individual-level theoretical frameworks that allow the derivation of organizational setting and culture from individual motivations and behavioral styles. OCI framework depicts that there are 12 norms that are measured by the OCI and are classified into three clusters: passive/defensive, constructive, and aggressive/defensive styles that measure both low-order needs for security and high-order needs for satisfaction (Cooke & Szumal, 2013).

The Organizational Culture Profile (OCP)

The "Organizational Culture Profile" (OCP) was developed by O'Reilly et al. (1991) with the explicit aim of measuring the cultural profile of the organization. The basis for this model was founded in Schein's (2010) three-level culture conception and emphasized values and norms that depicted characteristic representations of an organization's culture. While the CVF, Denison model, and the OCI have been developed by compounding on already existing measures or factors, the OCP has been created with the identification of nearly 110 descriptors that signify values and norms. The measurement of the items developed based on this framework is measured on a scale ranging from high to low which essentially forces the respondent to choose the values and norms that are most representative of their organizational culture (O'Reilly et al., 2014). This framework has been used in academic research in several organization-level and employee-level studies such as Lee and Yu (2004), O'Reilly et al. (2014), Elfenbein and O'Reilly (2007), and Chatman et al. (2014). The validity and reliability of the framework have been extensively established in earlier research (Sarros et al., 2005; Chatman & Caldwell, 1991). While there are socially desirable items in the questionnaire, OCP reduces the bias by allowing the respondents to engage in a relative ranking process. In addition, OCP was specifically tested to address the issue of socially desirable/undesirable outcomes by Chatman and Caldwell (1991).

Comparing and Contrasting the Various Organizational Models/Frameworks

Despite the benefits and strengths associated with each of the four models/frameworks, namely CVF, Denison, OCI, and OCP, each of these frameworks/models has its own limitations. This section reveals the popularity, using a Boolean search, of each of these models/frameworks and then highlights the main limitations associated with each.

Conducting a Boolean search on Google Scholar (May 20, 2022), with the name of the model/framework explicitly appearing in the title of the publication, the following results were generated in Figure 3. In conducting the Boolean search, both the American and British spelling of "organization/organisation" were considered.

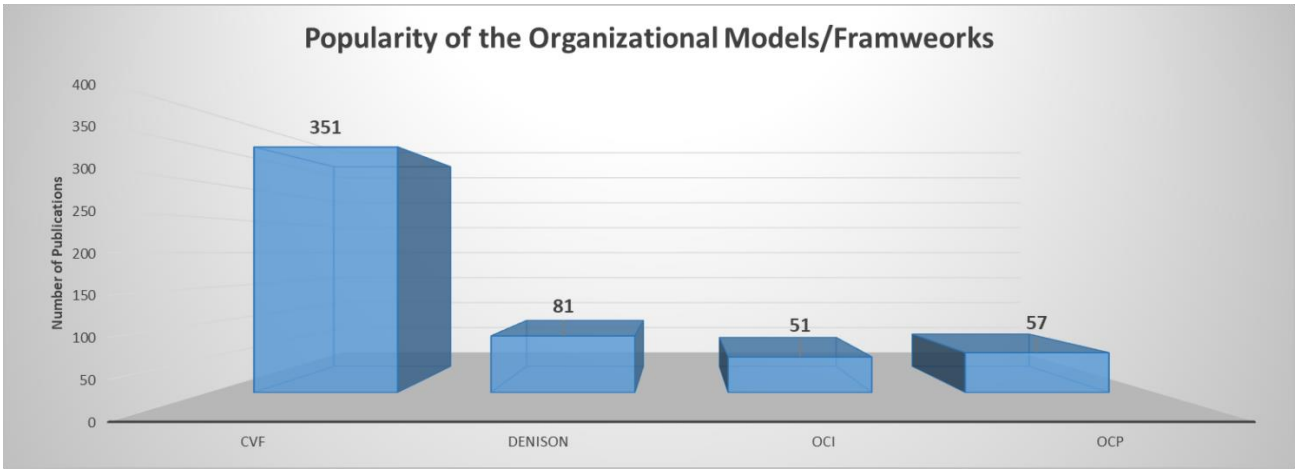

Figure 3: The Result of the Boolean Google Scholar Search (allintitle)

Despite its popularity, some limitations have been identified with the CVF. The initial framework's limitations circulated around the lack of competition (Hartnell et al., 2011) and overlapping between the various cultures (O'Reilly & Tushman, 2013), and the lack of evidence of validity and internal consistency in the constructs (Ostroff & Schulte, 2014).

The Denison is not without its own set of limitations. Chatman and O'Reilly (2016) note that the four traits outlined by Denison (1990) are embedded in different constructs such as economic, sociological, and psychological ones that "are not inherently cultural in nature" (p. 9). The authors have also challenged the presence of "mission" as one of the four primary traits of organizational culture, as it can be possible that an organization has a strong mission clarity but a weak culture. In addition, while citing similar issues in the inclusion of "involvement", Chatman and O'Reilly (2016) note that there appears to be a misunderstanding between climate and culture, as employee engagement is more representative of the culture and not the climate of the organization. The authors also suggest that there is no line that separates one trait from another and that there is a definite overlap between the traits. In addition, the presence of desirable items in the questionnaire can allow bias in the responses which can then affect the results (Paulhus & Reid, 1991).

Regardless of the reported benefits and effectiveness of the OCI, Chatman and O'Reilly (2016) note some limitations. For instance, the authors explain that the use of the Likert scale does not allow the comparison between two or more norms and values that may exist in the organization which then results in simultaneous low, high, or medium results across all

categories of the OCI. The authors also state that this limitation could mean that any cross-organizational comparison carried out with this framework will be inherently faulty. Finally, the authors indicate that several items in the questionnaire had answers that were considered to be socially acceptable behaviors, a stance that could elicit biased responses.

Despite the many benefits and strengths of OCP, Chatman and O'Reilly (2016) have also highlighted some limitations. Firstly, the authors note that OCP measures the categorical similarities between different items rather than measuring the norms and values. The authors also note that while OCP contains 54 items that were developed based on norms and values, the OCP cannot be truly considered comprehensive as many of the emerging norms and values are not considered by OCP. The authors have identified limitations in the dimensionality of the tool and, as such, the construct validity is questionable due to the fact that different sampling results in different factor measures. Finally, the authors explicate that due to the presence of different scores across different measures, the responses could be overestimated or underestimated.

Discussions and Conclusion

Each of the four models/frameworks, namely the competing values framework (CVF); the Denison model; the organizational culture inventory (OCI); and the organizational culture profile (OCP), has its own areas of strengths and weaknesses or limitations. Nonetheless, the further developed framework of the CVF by Denison and Spreitzer (1991), which was adapted by Prajogo and McDermott (2005, 2011) and by Cameron and Quinn (2011), addressed many of the articulated limitations (Hartnell et al., 2011; O'Reilly & Tushman, 2013; Ostroff & Schulte, 2014) about the original framework created by Quinn and Rohrbaugh (1981, 1983). Hence, this suggests that the competing values framework (CVF) would be more favorable than the other models and frameworks. This is also backed up by the popularity and the highest citations that this framework enjoys (Figure 3), which is nearly four times more than the Denison model and nearly seven times more than OCI and OCP.

What truly characterizes CVF is the fact that the four cultural constituents (group, developmental, hierarchal, and rational cultures) are broad enough to be inquired into and approached from various disciplines and lenses (e.g., management, sociological, and/or psychological). Nonetheless, the stance that this paper takes is that the choice taken by any researcher to select a certain organizational culture model or framework should be primarily driven and informed by the research context and settings and should properly contribute to answering the research questions and solving the research problem.

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Conflict of Interest

The author declares that this submitted work was carried out without any conflict of interest.

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