Organizational Culture and Performance in Canadian Emergency Departments

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Abstract

Purpose: How an organization's culture contributes to its overall performance has long interested management scholars. The objective of this research is to characterize the nursing culture in emergency departments, employing a competing values perspective as a means of assessing culture strength. Using this framework, a bundle of five performance measures depicting operational, employee and patient outcomes, were assessed against four nursing emergency department culture archetypes: clan, adaptability, mission, and bureaucratic. Design and Methods: In 2011, a survey questionnaire was electronically sent to 1299 registered nurses who practice in hospital emergency departments in Alberta, Canada. Results from 322 emergency room nurses are reported herein. Results: Nurses in our sample were more likely to describe the culture of their emergency department as bureaucratic (valuing established roles and rules) and mission archetypes (valuing performance outcomes and targets), and less likely to describe their emergency room culture as clan (valuing human resources and morale) or adaptability (valuing risk taking and problem-solving). Nevertheless, nursing cultures which emphasize organizational responsiveness and flexibility (clan and adaptability culture archetypes), were found to lead to higher performance, for the bundle of our five performance outcomes, than emergency department nursing cultures focusing on organizational control and stability (mission and bureaucratic archetypes). Practical Implications: There is no ideal (or correct) culture for all organizations. Nursing cultures which promote employee and organizational flexibility and responsiveness over control and rigidity may allow emergency departments to achieve valued performance outcomes.

Keywords: organizational culture, competing values perspective, organizational performance, hospital emergency departments

Introduction

Management scholars and practitioners have long been interested in understanding how an organization's culture contributes to it overall effectiveness [1, 2]. When organizations create strong and vibrant cultures they are doing so, in part, to ensure superior performance over the long-term [3, 4]. A strong culture helps provide the needed social cohesion that directs and guides employee attitudes, beliefs and behaviors. A strong culture makes it easier for employees to make sense of organizational events, determine what actions are important, improve communication and cooperation, and reduce role ambiguity [5].

Culture can be defined as the basic pattern of shared beliefs, values, and assumptions that exist in an organization or in an organizational sub-unit, and which are widely shared by its members. Schein [6] suggests that culture forms in response to two contradictory challenges that confront all organizations: the need for external adaptation and survival and the desire for internal integration and cohesiveness. The primary function of culture is to provide meaning, stability, predictability and identity to organizational participants. Schein [6, 7] views culture as operating on three levels: 1) behaviors and artefacts consisting of the physical and social environment of an organization; 2) values and attitudes which provide the underlying meanings and interrelations by which the patterns of behaviors and artefacts may be deciphered, and; 3) basic assumptions which are "taken-for-granted" beliefs concerning what is an appropriate and acceptable way of seeing the world. Culture provides a basis for describing and explaining not only the visible activities of organizational life but also the underlying reasons and motivations of organizational participants [8, 9].

Discussions concerning an organization's culture usually refer to its dominant culture. However, complex organizations like hospitals are usually comprised of a diverse array of sub-cultures—many quite distinct but which generally share or adhere to some of the belief elements that together constitutes its dominant culture. A nursing subculture found in an emergency department may be somewhat different than the nursing subculture on a particular ward and differ again from that subculture in the clinical laboratory among medical technologists. In these instances, the presence of multiple subcultures is easily tolerated and even promoted since organizational sub-units have different identities, needs, aspirations and orientations [10]. A distinctive culture for a particular subgroup serves as a point of identity and pride.

Culture and Performance

An important feature of culture relates to its association with organizational effectiveness and performance [8, 4]. In what ways does an organization's culture relate to its performance? More importantly, can a culture be modified or adapted to assist an organization to achieve its valued performance objectives? In summarizing the potential impact of culture on performance in healthcare organizations, Scott et. al. [11] state that "the notion that organisational culture can affect health care performance rests upon certain assumptions that health care organisations, units or work groups have identifiable cultures; that culture is related to performance; that a culture can be altered to impact on performance; that the intervention will provide a worthwhile investment; and that it will outweigh any dysfunctional consequences" (p. 105).

Kotter and Heskett [2] have identified three perspectives which can help clarify the nature of the relationship between organizational culture and performance: a) the strong culture perspective, b) the strategic fit perspective, and c) the adaptation perspective. The *strong culture perspective* contends that organizational performance is enhanced in those organizations where norms, beliefs and attitudes are strongly held. A strong culture can act as a form of social control and cohesion and provides a mechanism to guide employee behavior. A strong culture can also make it easier for members to interpret organizational events and clarifies for participants the behaviors that are sanctioned and rewarded by the organization. However, to date there has been mixed evidence for the impact of a strong culture on performance [11]. The *strategic fit perspective* argues that an organization's culture will only be effective if it is aligned with its strategy and goals. For instance, organizations which need to compete on the basis of service quality would be best to nurture strong customer-centered values. Barney [12] contends that if an organization's culture provides it with strategic advantage, it must be rare, valuable and not-

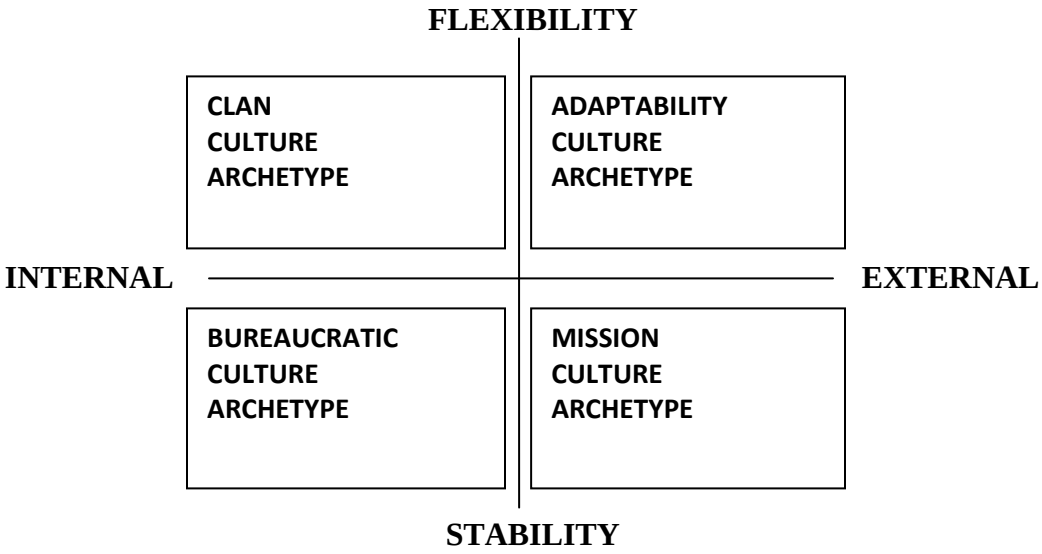
easily copied by competitors. The *adaptation perspective* suggests that only cultures that help organizations respond to environmental change will be associated with excellent performance. Adaptive cultures promote entrepreneurial values, risk-taking, innovation, and experimentation. Non adaptive cultures tend to be more hierarchical and bureaucratic and emphasize control through rules and roles. Adaptive cultures are also strongly associated with Senge's notion of a learning organization [13].

In a review of the impact of culture on performance in health care organizations, Scott and colleagues [11] conclude that there is some evidence to suggest that "organizational culture may be a relevant factor in health care performance, yet articulating the nature of that relationship proves difficult" (p. 105). There is little evidence to suggest that a strong culture leads to better performance. Indeed, the evidence in health care organizations suggests a more contingent relationship—those aspects of performance valued within different cultures may be enhanced within organizations which exhibit those traits. The direction of causality of culture and performance is also not clearly established—perhaps performance acts to shape culture.

Competing Values Perspective

The competing values perspective (CVP) was originally developed to explain and to integrate various criteria of organizational effectiveness [14]. Quinn and Kimberly [15] contend that the value orientations that are inculcated in the framework can be used to "explore the deep structures of organizational culture, the basic assumptions that are made about such things as the means to compliance, motives, leadership, decision making, effectiveness, values, and organizational forms" (p. 298). Denison and Spritzer [16] suggest that the CVP "connects the strategic, political, interpersonal, and institutional perspectives of organizational life by organizing the different patterns of shared values, assumptions, and interpretations that define an organization's culture" (p. 3).

Figure 1 The Competing Values Perspective—Organization Culture



The CVP proposes that most organizations or workplaces can be characterized along two fundamental value propositions. These propositions reflect fundamental challenges and choices which all organizations must resolve in order to be effective. The first set of competing values

depicted in the framework is the degree to which the organization (or an organizational sub-unit) stresses centralization and control over organizational processes versus decentralization and flexibility. The second set of competing values is the degree to which the organization is oriented toward its internal environment versus the external environment and its relationship with outside stakeholders. Using this framework, the resulting classification produces four archetypes referred to as clan, adaptability, mission, and bureaucratic [14].

The *clan* (also called team or group) *culture archetype* is located in the upper left quadrant in Figure 1. Organizations with this culture archetype value flexibility and change while having an internal focus. Its primary concern is human relations and its development while its shared values encourage strong participation by employees emphasizing teamwork and empowerment. The *adaptability* (entrepreneurial, developmental) *culture archetype* occupies the upper right quadrant and, like the clan culture archetype, emphasizes flexibility and change but maintains a primary focus on the external environment. Organizations and workplaces with strong adaptability cultures value creativity, risk-taking and innovativeness. They place a premium on growth and responding quickly to environmental challenges. The bottom right quadrant is where the *mission* (also labelled rational, goal) *culture archetype* is located. Organizations with this cultural archetype have an external focus and value centralization and control. The purpose of organizations with emphasis on the mission culture is the pursuit and attainment of well-defined objectives. These organizations place a premium on efficiency and measurable outcomes. The *bureaucratic* (hierarchical, mechanistic) *culture archetype* adopts centralized authority and stability with an internal focus. Organizations and workplaces with strong bureaucratic cultures value following rules and tradition while demonstrating a respect for formal authority. Here leaders place a premium on stability and predictability. In summary, clan and adaptability cultures value flexibility and change, while mission and bureaucratic cultures value control and stability. Clan and bureaucratic cultures have an internal focus; one that emphasizes structure, process and product. Adaptability and mission cultures emphasize the external environment of customers and markets.

Several assumptions underlie the CVP culture model [16]. First, the four cultures are proposed as archetypes inasmuch as each is considered an ideal type. In reality, organizations are expected to reflect to some degree all four cultures to some extent. Organizations are unlikely to reflect only one culture type, but would demonstrate "paradoxical" combinations of each cultural type with some types being more dominant than others. Second, no one culture archetype is inherently better than any other. Indeed, all four cultures operate to varying degrees at a group, departmental and organizational level and remain relatively stable over time. Third, an underlying assumption of the CVP is the importance of balance. When one quadrant is overemphasized, an organization may become dysfunctional. For instance, too much flexibility and spontaneity can lead to chaos, while too much control and order can result in rigidity. Finally, the model recognizes the cultural capacity that organizations have to enable them to respond to a wide set of environmental conditions.

One can see that each cultural archetype provides some tangible, inherent benefit for emergency department in the pursuit of its multiple goals. Clan cultures can help emergency departments to maximize the potential of their employees to respond to patient needs. Adaptability cultures are useful in emergency departments because they help the unit respond in useful and innovative ways to the vast array of unique problems and situations that are confronted there on a daily basis. Mission cultures are found in emergency departments who

want to achieve their performance targets such as patient wait times, while bureaucratic cultures create the formal structures and routines needed for efficient patient care.

Methods

Study Participants and Procedure

Data for this study was extracted from 323 responses to a web-based questionnaire of Alberta Registered Nurses collected in early 2011. Approval for the study was sought and obtained from the Health Research Ethics Board of the University of Alberta. Data was collected from two sources. First, 149 registered nurses who are members of the Alberta Emergency Nurses Interest Group (AENIG) were solicited for their participation. From this request, 62 completed questionnaires were obtained, representing a response rate of 41.6 percent. To increase the sample study size, 1150 registered nurses from the College and Association of the Registered Nurses Association of Alberta (CARNA) were asked to complete the study questionnaire. This produced 260 complete questionnaires for a responses rate of 22.6 percent. Respondents who had completed the first request through AENIG were asked to ignore the request from CARNA. The study database included nurse respondents from both populations. In order to examine comparability of our two study populations, gender and job tenure of respondents was examined and showed no significant difference.

Measures and Design

Data Collection and Analysis

The web-based survey instrument used in this study was distributed to participants through *Survey Monkey*® (Surveymonkey.com, Palo Alto, California). Email addresses were provided by AENIG and CARNA. Data was analysed using *SPSS*® (Statistical Package for the Social Sciences) Predictive Analytics Software, version 19.0. Data analyses consisted of descriptive analysis, bi-variate analysis, and ordinary least squares (OLS) regression modeling. Scales for our four culture archetypes were constructed and examined for internal consistency and reliability.

Emergency Department culture: The 12-item questionnaire was modified from a framework proposed by Zammuto and Krakower [17], based on the competing-values typology of Quinn and Rohrbach [18], and Hooijberg and Petrock [19]. Participants were asked to indicate with a five-point Likert scale, where 1=strongly disagree and 5=strongly agree, their level of agreement (or disagreement) with three items comprising each of the four culture archetypes. A sample question from the three questions comprising the *clan culture archetype* is: "This ED is a very personal place. Its leaders really value the employees who work here." One of the three questions that comprise the *mission culture archetype* is: "This ED emphasizes results and achievements. The nursing leadership is focused on achieving excellence." Each of the four measures of culture archetype (clan, adaptation, mission, and bureaucratic) were assessed with respect to their internal reliability (see Table 1). The Cronbach alpha scores for our four culture archetypes ranged from .77 to .87, indicating acceptable levels of internal reliability.

Emergency Department Performance Variables: From a five-point Likert scale (where 1=very low to 5=very high), five single-item measures of emergency department performance were measured—comprising respondents' assessment of human resource (two measures),

organizational (two measures) and customer/patient (one measure) performance. Our human resource performance measures include nurse job satisfaction and nurse voluntary turnover. The organizational performance measures are operational efficiency and adverse medical errors, while the customer measure is patient care quality.

Emergency Department Control Variables: In order to examine the relationship between nursing culture and performance, it is necessary to control a number of organizational variables that might impact performance. *Emergency Department location* was measured on a 5-point scale (1=rural location with less than 1,000 residents to 5=metropolitan location with more than 500,000 residents). The location of the emergency department is also a robust proxy measure for emergency department and hospital size as emergency departments in rural hospitals are more likely to be smaller than those located in larger population centers.

Patient activity is a measure of the overall visitor volume or "busyness" of the emergency department. This score was constructed as a mean score from two-items: "In a typical day in your ED during times you are most busy, how would you characterize the overall 'busyness' of your ED" (using a 5-point scale where 1=not busy to 5=extremely busy) and "In a typical day in your ED during times you are least busy, how would you characterize the overall 'busyness' of your ED (using a 5-point scale where 1=not busy to 5=extremely busy). Patient emergency department visitor activity (volume) was controlled because of the potential to impact our performance variables of interest.

Patient acuity is a measure of the degree of illness acuity of patient visitors. Respondents were asked to assess the "percent of ED patients who are truly urgent" (range=0 to 100) and the "percent of ED patients who arrive via ambulance" (range=0 to 100). Our patient acuity score reflects the mean value of these two estimates. Patient emergency department visitor acuity was controlled because of the potential to impact our performance variables of interest.

Results

From Table 1, we can see that emergency department nurses are more likely to describe their workplaces as having a strong mission or a strong bureaucratic culture. They are less likely to describe their culture as clan or adaptability. It should be noted that no one culture archetype is inherently better than any other. All four culture archetypes are present to varying degrees. Indeed, emergency department functioning is facilitated by characteristics associated with each culture archetype. For instance, in busy emergency departments require employees to effectively work together in teams. A strong clan culture would facilitate team functioning. Adaptability cultures would be effective in emergency departments because nurses must be flexible enough to find novel solutions to a highly diverse array of patient problems and organizational challenges. A strong mission culture is one that places a premium on attaining organizational goals and objectives. Reducing patient waiting times, operating efficiently within established budgets, and efficiently moving patients in and out of the emergency department would be important for the nursing staff in an emergency department demonstrating a strong mission culture. Effective emergency departments have well established routines and procedures. Having a strong bureaucratic emergency department culture would be characterized by the reliance on policies and procedures in order to expedite the work of busy nurses.

Table 1 Means, Standard deviations and ranges for Nursing ED Culture Archetypes

Culture Archetype	N	Cronbach α	Mean	Std Dev	Range (Min-Max)
Clan	322	0.87	2.96	1.01	1 – 5
Adaptability	322	0.83	3.23	0.93	1 – 5
Mission	322	0.78	3.65	0.77	1 – 5
Bureaucratic	322	0.77	3.50	0.80	1 – 5

We are interested in examining the relationship between organization nursing culture and various work performance factors in hospital emergency departments. Bivariate analysis was performed for our study variables (see Table 2). Emergency departments characterized by a strong *clan culture* that emphasize employee teamwork and human relations report high levels of nurse job satisfaction, operating efficiency, and patient care quality ($p<.001$), and with lower nursing turnover and adverse medical events ($p<.001$). The clan culture archetype is also more likely to be found in less busy emergency departments ($p<.001$). Emergency departments characterized by a strong *adaptability culture* emphasize innovation, creativity and risk taking behaviours. Adaptability cultures are associated with high levels of nurse job satisfaction, operating efficiency, and patient care quality ($p<.001$) with lower nursing turnover and adverse medical events ($p<.001$). The *mission culture* archetype emphasizes the importance of pursuing goals and objectives. Like the clan and adaptability culture, a strong nursing emergency department mission culture is also associated with higher levels of nurse job satisfaction, operating efficiency, and patient care quality ($p<.001$) with lower nursing turnover and adverse medical events ($p<.001$). Emergency departments characterized by having a strong *bureaucratic culture* place a strong emphasis on having formalized roles and following rules and established procedures. They are more likely to report higher operating efficiency ($p<.001$) and to be located in urban areas ($p<.001$).

Because organizations concurrently pursue a number of valued objectives, we are interested in examining how a particular culture archetype is associated with the attainment of performance outcomes. We have chosen five emergency department nursing performance variables--reflecting human resource, operational and customer/patient outcomes. The

Table 2 Study Correlation Matrix

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
Study Variables														
1. Clan culture archetype	2.96	1.01	1.00	.75**	.53**	.20**	-.12	-.18**	-.09	-.48**	.62**	.37**	-.25**	.47**
2. Adaptability culture archetype	3.23	0.93		1.00	.61**	.18**	.02	-.06	-.06	-.31**	.52**	.38**	-.18**	.40**
3. Mission culture archetype	3.65	0.77			1.00	.43**	.06	.04	-.03	-.26**	.33**	.35**	-.23**	.35**
4. Bureaucratic culture archetype	3.50	0.80				1.00	.16**	.01	.08	-.14*	.14*	.22**	-.08	.15*
5. ED location [a]	4.05	1.20					1.00	.41**	.35**	.38**	-.06	.00	.16**	-.11
6. ED patient activity (busyness)	3.65	0.69						1.00	.35**	.33**	-.20**	.00	.23**	-.12*
7. ED patient acuity score	24.3	12.9							1.00	.21**	-.07	-.01	.12*	-.07
8. ED Nurse turnover	3.52	1.07								1.00	-.49**	-.21**	.34**	-.34**
9. ED Nurse job satisfaction	2.72	1.00									1.00	.34**	-.32**	.49**
10. ED operating efficiency	3.10	0.82										1.00	-.20**	.39**
11. ED adverse medical errors	2.32	0.83											1.00	-.38**
12. ED patient care quality	3.43	0.81												1.00
[a]coded as 1=rural to 5=urban														
*p<.01; **p<.001														

competing values framework suggests that organizations make tangible tradeoffs with respect to their ability to attain valued performance objectives when they emphasize certain organizational values over other organizational values. For instance, the *clan culture archetype* reflects organizations that emphasize "employee commitment over organizational control" (employee-centeredness) while choosing to pursue an "internal focus over an external focus" (operations-oriented). By contrast, the *mission culture archetype* reflects organizations that emphasize "organizational control over employee commitment" (organization-centeredness) while pursuing an "external focus over an internal focus" (market-oriented). We are able to examine the combined impact of our five performance outcomes on each of the four culture archetypes. Using each archetype as the dependent variable, an ordinary least squares linear regression is run on the five performance outcome variables. Three emergency department control variables were added for each regression: patient volume (busyness), patient acuity, and emergency department location. Results for each OLS regression can be found in Table 3.

OLS Regression results demonstrate how emergency department culture can impact the attainment of valued performance outcomes. Four our five performance outcomes (and our control variables), the amount of variance explained was greatest for the clan culture archetype at 43.1 percent. Our five emergency department outcome variables (and our control variables) explained 32.0 percent and 21.5 percent respectively in the variance in the adaptability and mission culture archetypes, while only 5.5 percent was explained for the bureaucratic culture archetype.

Discussion

This study explored the relationship between nurse perceptions of unit culture and performance in Canadian in a large sample of Canadian emergency departments. The findings suggest that the content of employee culture, not merely its strength, has the greatest influence on perceptions of performance. The differential effect of culture on performance suggests that nursing leaders need to pay attention to cultural influences on resource allocation decisions. Achieving valued results depends on creating a consistent culture. For our hospital emergency departments, although respondents often described them as more bureaucratic and mission-oriented, for our five performance outcomes the clan and adaptability culture archetypes, stressing organizational flexibility and responsiveness was found to be most strongly associated with performance enhancements.

Several important limitations of this study suggest that any conclusions derived from it must be viewed with some caution. First, our measures of organizational performance and culture reflect the subjective assessments of our respondents. Second, because data collected in this study are derived from a single source, common method bias may distort research findings and conclusions. Third, measures of organizational culture assessed from a single perspective will be limited in their accuracy and validity. To characterize an organization as composed of a dominant culture or cultures does not give sufficient recognition to the presence of subcultures and their role in promoting organizational effectiveness. Finally, there is a real difference between the values, beliefs and assumptions that nurses say guide their department and those values, beliefs and assumptions of other participants. For instance, emergency room physicians and administrators may believe that their departments are operating under other cultural norms not identified by our nurse subjects. Indeed, values reflect interests and preferences and may be very different depending upon whose interests and preferences are being served.

Table 3 OLS Regression Results for Emergency Department Nursing Culture Archetypes

	Clan	Adaptability	Mission	Bureaucratic
ED Control Variables				
ED location	.015	.086	.097*	.142**
	(.046)	(.047)	(.042)	(.047)
ED patient activity	-.047	.013	.127	-.026
	(.081)	(.083)	(.074)	(.084)
ED patient acuity	-.001	-.003	-.002	.003
	(.004)	(.004)	(.004)	(.004)
Outcome Variables				
Nursing outcomes				
Nurse turnover	-.191***	-.093	-.149**	-.126*
	(.057)	(.058)	(.051)	(.058)
Nurse job satisfaction	.411***	.308***	.065	.006
	(.061)	(.062)	(.055)	(.063)
Operational outcomes				
Operating efficiency	.134*	.212**	.202***	.136*
	(.063)	(.064)	(.057)	(.065)
Adverse medical errors	.001	.051	-.098	-.030
	(.064)	(.066)	(.058)	(.066)
Patient outcomes				
Patient care quality	.173*	.222**	.125	.007
	(.073)	(.075)	(.066)	(.076)
Constant	1.641***	.847	2.361***	2.982***
	(.454)	(.462)	(.411)	(.467)
R-square (adjusted)	.431	.320	.215	.055
F-statistic	26.291***	16.724***	10.115***	2.950**

Regression coefficient with standard errors in parenthesis *p<.01; **p<.005; ***p<.001

Results of this research suggest that emergency departments need to manage their culture if they are to be effective. A particular culture may help an organization pursue some objectives but will be ineffective or dysfunctional with respect to other valued objectives. Our research suggests that although no one culture is best with respect to organizational effectiveness, not all cultures are equal with respect to their impact on performance outcomes. No doubt one of the greatest management challenges that all organizations will have to face in the future will be for its leaders to create and nurture strong, yet adaptable organizational cultures which will provide them with an ability to attain their valued (and varied) performance outcomes.

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