

Employee Perceptions of Cultural Wants and Barriers to Affordability in an Organization

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Abstract - Affordability has become an objective for organizations to provide products and services with accurate positioning in the target market, with profitable pricing containing a value proposition that meets customers' expectations, needs, wants, and requirements, that is delivered as fast as required, and containing excellent quality and reliability. The aim of this study was to understand employee perceptions regarding cultural wants and barriers regarding affordability. A survey was distributed to employees of an aerospace organization to gain insight into employee perceptions of affordability characteristics. Moreover, a qualitative thematic analysis was performed to analyze why employees may want an affordability culture and potential cultural barriers to affordability that may exist within an organization. Upon preliminary analysis, several categories were identified when prompted regarding why an affordability culture is wanted, including financial factors, business factors, image management factors, and factors of effectiveness and efficiency. Categories identified when prompted regarding cultural barriers included organizational resistance, workforce and workflow barriers, organizational culture barriers, process barriers, and financial barriers. Future research directions should continue to refine overall survey design, research methodology, and consider external factors such as respondent occupational role status on perception. The generation of these coding schemes may aid in identifying areas of opportunity for organizations in terms of overcoming cultural barriers to affordability as well as benefits of having an affordability culture. This contributes to a growing body of knowledge surrounding affordability culture within organizational settings.

Index Terms - affordability; affordability culture; cultural barriers

I. ORGANIZATIONAL CULTURE

The concept of affordability has been discussed in multiple contexts, and one important context is within an organization's overall environment. An organization's overall environment has been termed organizational culture. Within the scientific community, there has been little agreement on how an organizational culture should be defined, observed, and measured. One of the reasons is that both organization

and culture are broad and ambiguous terms. Culture has been characterized as what a group learns over time as the group solves problems in relation to its survival [1]. Organizations contain groups and other units, each consisting of values, attitudes, and beliefs that constitute culture [1]. This is further supported by the definition of organizational culture as the set of values, beliefs, and attitudes that influence the expected behaviors that employees must follow within an organizational setting [2].

An organizational culture is characterized by an organization's behavioral norms and expectations of its members [3]. To better understand the relationship between an organization and employee behavior, organizational climate is measured [4]. Collective norms held within the organizational culture are reinforced in day-to-day behaviors of the organizational climate. The distinction between climate and culture led to multiple scientific tools, the most important for the purposes of this study is the Competing Values Framework (CVF). The CVF model suggests that within an organization there are competing values, which can be categorized within four dimensions: internal focus, external focus, flexibility, and stability. Organizational culture has been categorized into four types along the four dimensions of the CVF [5]. The four types of organizational culture are: clan culture, which has an inward focus and integration procedure and exercises flexibility and discretion in the decision making process; the hierarchy culture, which also has an inward focus but emphasizes control and stability; the adhocracy culture, which has an external focus and emphasizes flexibility; and, the market culture, which also has an external focus with an emphasis on stability ([6], see Figure 1). Understanding organizational culture at the definition level serves as a foundational step to understanding the role of affordability within it.

AFFORDABILITY SUBCULTURE

One preliminary research method to assess affordability within an overall organizational culture is by identifying the potential key factors relating to affordability. In the following, affordability definitions are discussed with the review of previous literature and a comparison is made to the existing literature surrounding safety culture.

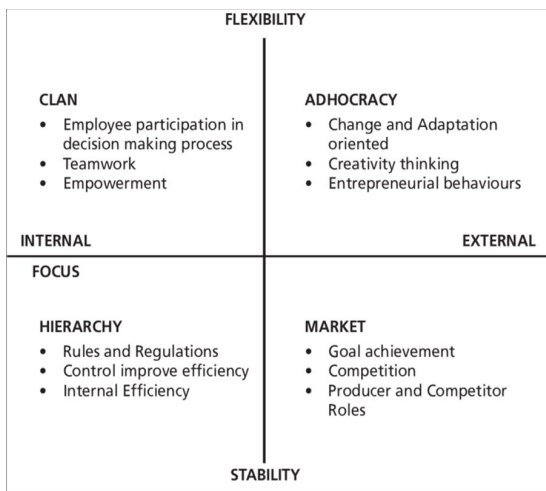


Figure 1.

Organizational Culture Types and CVF Framework

One multidisciplinary definition of affordability is the weight of the value of a product's effectiveness against its associated cost and risk for a given schedule [7]. This value is dependent upon the point of view within the market system. From the perspective of the producer, this is determined by product effectiveness traits such as capability, performance, reliability, maintainability, and safety; as well cost traits such as acquisition, operation, support, financing, and disposal [7]. Conversely, the systems engineering perspective analyzes affordability on three levels: mission analysis, technical analysis, and cost analysis [8]. Mission analysis consists of factors within the operational environment, and operating concepts; technical analysis consists of system description system performance model; cost analysis consists of cost breakdown structure and cost estimation models [8].

In addition, affordability is dependent upon other factors within an organization, and it is important to understand the roles of these other factors and their relation to affordability. For instance, after Chernobyl, researchers focused on safety within organizations, and officially used the term safety culture for the first time in the 1987 OECD Nuclear Agency report [9]. In previous literature, researchers have identified various characteristics of a safety culture. This includes a safety information system that differentiates incidents from near misses, a reporting culture where individuals report errors and mistakes, and a trust culture where people are encouraged to provide safety related information [10]. On the surface, the elements that make up a safety culture seem to have a contradictory relationship with the balance of value definition of affordability; however, it is important to understand the nature of the relationship between affordability, safety and other factors within an organizational context.

In sum, the existence of a safety culture within an overall organizational culture can be used as an initial starting point for determining the existence and the elements that make up

an affordability subculture. The following will examine certain aspects within an organization that could relate to the construct of affordability, like research done on safety culture, which examined certain aspects that could have been related to safety. While past research into affordability factors seems to oppose safety factors, this oppositional relationship could improve our understanding of the potential impediments to an affordability subculture.

CULTURAL BARRIERS

One preliminary research method to assess these potential impediments to an affordability subculture is by studying the cultural barriers within an organization. An example of a cultural barrier is the practice of sacrificing access to production equipment and hardware to increase revenue generation. Another example of a cultural barrier is when organizations push too many change initiatives at one time and over-commit their resources, which results in none of the initiatives being achieved in a timely manner [11]. Finally, the role of middle management and the constitution of middle management can also be a cultural barrier. Middle management typically consists of individuals who are promoted from front line technical roles and exhibit a resistance to change [11]. This resistance can negatively impact progress and can create tensions with those in more technical or front line roles. In contrast, upper management is more dynamic in nature, due in part to individuals frequently moving from position to position [11]. It is important to note that in some cases upper management can also exhibit resistance to change. Oftentimes this resistance can act as a cultural barrier when there is a perception within the organization that there is no clear vision or there is no clear communication either horizontally or vertically. In sum, organizational decision making and standard operating, as well as organizational role definitions can act as barriers to an organization's culture.

FIGURE I

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PURPOSE

Previous research has examined the concepts of an organizational culture and affordability individually. This study builds on and extends this research by examining affordability within an organizational culture. This bridges the gap between employee perception of affordability and organization expectations. Through surveying members of an aerospace organization, this study provides a preliminary glimpse at understanding of affordability. This study achieves this by asking two questions: why affordability should be a priority and what are the existing barriers within an organization that prevent an affordability focus? It is the intention of this research to guide organizational change by informing business leaders of the importance of affordability practices to their organization's success.

METHODS

Participants. Participants (N =378) were recruited from an aerospace organization in the United States. The participant pool was reduced based on non-response to the two open-ended questions. After this exclusion, there was a sample size of N =172 employees.

Materials. An affordability survey was created and distributed via Qualtrics, an online survey platform. The affordability survey consisted of 4 open-ended questions and 47 Likert-type questions regarding affordability within an organization. For the purpose of the current study, two of the open-ended questions were analyzed during qualitative thematic analysis.

Procedures. Before taking the survey, participants were asked to read the consent form, and provide an e-signature if they agreed to participate. Participants then completed the affordability survey online via Qualtrics. Afterwards, participants were given a debriefing form and the survey was complete.

Qualitative Thematic Analysis and Procedure. To gain a deeper understanding of perceptions regarding affordability culture, thematic analysis was utilized when examining the open-ended question responses. Thematic analysis involves identifying, analyzing, and reporting patterns or themes within data in a qualitative manner [12, 13]. This can be done on both inductive and deductive coding approaches and was considered an appropriate approach for the current analyses. For this research, an inductive coding approach was used to derive themes from the data.

Two open-ended questions were analyzed in the current study: “What cultural barriers potentially hindering affordability have you encountered in your program?” and “Why would you want an affordability culture in your program?” Responses to these questions were recorded and general notes were taken regarding the content and themes of responses. Any patterns of responses were recorded and grouped into categories based on similarity. Multiple rounds of this iterative process occurred, resulting in two separate coding schemes, one for each question analyzed. Responses were then categorized into the groups generated from the qualitative thematic analysis

RESULTS

After performing an analysis of responses to the question that asked respondents to identify cultural barriers that could potentially hinder affordability, five categories were generated based on similarity of response themes: workplace/workflow barriers, organizational barriers, organizational resistance, process barriers, and financial barriers see Table 1. The responses were then placed into five categories and frequency counts of responses in each category were gathered. This step in the process was critical because

it highlights areas of opportunity for organizational change to occur. Management can use this information to make policy changes that could potentially improve overall output and profits. The process was repeated for the question asking respondents why they would want an affordability culture, which generated six response categories: image management factors, business factors, effectiveness factors, efficiency factors, financial factors, and cultural factors see Table 2. Management can use these employee perceptions regarding cultural wants to highlight positive aspects of prioritizing a culture of affordability.

Table 1.
Themes for *What cultural barriers potentially hindering affordability have you encountered in your program?*

<i>Theme</i>	<i>Description</i>
Organizational Resistance	Resistance to organizational change. Examples include resistance to adopting new technologies, resistance to change due to risk aversion
Workforce/Workflow Barriers	Workforce: Barriers within teams. An example is communication issues Workflow: Organizational structure barriers. Examples hierarchy and paperwork.
Organizational Culture Barriers	Barriers that are built into an organization’s culture. Example: NASA’s bureaucratic culture.
Process Barriers	Barriers that are built into the overall engineering process. An example of this is not using upfront testing.
Financial Barriers	Barriers to financial success. An example of this is budget restraints.

Table 2.
Themes for *Why would you want an affordability culture in your program?*

<i>Theme</i>	<i>Description</i>
Financial Factors	Focus on cost and budget concerns. An example is desire to not overrun costs

	unnecessarily
Business Factors	Focus on an organization's overall goals, priorities, and strategies. An example of this is the desire to ensure program success.
Image Factors	Focus on organizational image and reputation to stakeholders. An example of this is justifying that taxpayer money is being used responsibly.
Cultural Factors	Focus on an organizational culture from an employee perspective. Examples include worker experience and worker communication.
Effectiveness Factors	Focus on measurements of organizational success. Examples include product improvement and maximizing number and diversity of projects.
Efficiency Factors	Focus on organizational accomplishments that limit waste including all the -ilities. An example of this is sustainability focus.

DISCUSSION

The generation of these coding schemes allows for organizations to better understand areas of opportunity in which organizational change may occur. Understanding employee perceptions regarding cultural barriers can inform management of areas that may need to be addressed in order to rectify any potential obstacles when implementing or reinforcing existing affordable practices. For example, if a high frequency of responses given by organization members fall within the organizational resistance category, management may adjust internal mechanisms to encourage organizational change [14]. This can be done through a change process of diagnosis, creating readiness, and change adoption [15].

The results from the question regarding why organizational members would want an affordability culture could aid in the creating readiness step of organizational change. By highlighting positive aspects of affordability culture, management could convey motives to support change efforts within the organization. These positive employee perspectives could support key change beliefs necessary to support change efforts such as the belief that the change is

necessary and the belief that the change is appropriate [16, 17]. Utilizing employee perspectives may also aid in cultivating a sense of inclusion within the organization, where organization members feel as if their opinions and beliefs are taken into consideration during decision-making processes.

FUTURE WORK

Future Research should validate and continue to refine categories that this paper has identified. This analysis will be beneficial in better understanding the role of affordability and its impact within organizations. Furthermore, future research should further examine the frequency of responses within each response category to further gauge the level of importance of attributes of affordability within organizations. It is important to note that the response categories mentioned are not universal to all types of organizations nor are they consistent within organizations in a particular industry. Additionally, consistency of responses within a particular organization can vary. Thus, future research should generate a coding scheme and calculate the inter-rater reliability to obtain an understanding of these variations. This research should also consider the role of occupational status and its organizational hierarchy status on perceptions of affordability and should perform group level comparisons between large umbrella labor categories.

CONCLUSION

The potential of an existing subculture that is focused on affordability is an area of growing research interest. An affordability subculture would influence organizational practices by encouraging organization members to prioritize affordability in day-to-day processes. A survey asking employees working for a government aerospace agency what kinds of barriers to affordability exist within their program and why they personally would want an affordability culture was distributed. A thematic analysis was conducted on the responses and response categories were formed. The research found five main categories to types of barriers questions and six main categories to the wanted questions. Future research should attempt to refine these categories and find any potential other categories as well as considering external factors that may influence response categories.

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