

SIMULATION FOR TEACHING ORGANIZATIONAL CULTURE

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Abstract: Organizational culture is widely recognized as a significant factor influencing organizational success. A simulation was developed for a high-tech client to direct change in their culture. Simulation content was captured in ethnographic interviews with employees and included cultural ideals. Significant employee attitude change was measured. Teaching students about organizational culture is difficult because much cultural knowledge is tacit. This simulation is now used in an MBA class "Leadership and Organizational Culture" and offers valuable experience. The client had a high-commitment culture that contributed to success and contains constructs and practices that many organizations may wish to adopt.

Introduction

Organizational culture is widely recognized as a significant factor influencing organizational success. Schein^{14, 15} devotes an entire chapter to presenting reasons "Why Culture Must be Better Understood". Included in his discussion is the significant impact of culture on Strategy, Failures of mergers, acquisitions and diversifications, Integration of new technology, Productivity, and Intergroup conflict within the organization. Kotter and Heskett⁸ report several quantitative assessments that show the strong impact of an organization's culture on its performance.

A previous project studied the culture of a very successful, high-tech company and developed a simulation used in corporate training classes (Schumacher¹⁸). Specific attitudes and beliefs at the core of this culture are described below. The simulation was titled "Winning at Design Automation" (WADA) connecting the client's success to its industry. The simulation has employees adopt 'cultural roles' as they competed in teams to make their computer-simulated company the industry leader. These roles, along with feedback the software presented, conveyed interpretations of the simulated events that caused participants to rethink their existing cultural beliefs and adopt a new perspective. Recent use of a modified version of the simulation in a graduate course "Leadership and Organizational Culture" is summarized here.

The Culture Framework in Organizations

The application of a 'culture' framework in the management field has several variants, the most important are Climate and Culture. Reichers and Schneider¹³ trace the development of the literature of these competing paradigms through three stages. Climate emerged earlier, adopted an absolutist (outsider or etic) view with quantified measurement, and came from a Psychological (individualist and reductionist) tradition. Climate is philosophically Positivist. Culture emerged in the early 1980s with an Anthropological (systems and holistic) tradition which has at its core an awareness that interpretation of cultural knowledge is a fundamental necessity (an insider or emic approach). The Culture approach has ethnography as its primary method, in contrast to the Climate approach whose primary method is questionnaire. The Culture paradigm, when true to its Anthropological roots, is philosophically Constructivist (Schumacher¹⁷). The study that produced the WADA simulation was guided by a culture (Constructivist) approach and the simulation design reflects this in its heavy emphasis on presentation of detailed, contrasting interpretations of the issues surrounding the intersection of the client's entrepreneurial culture and its rapid growth.

Conveying cultural knowledge, to employees or students, is problematic for several reasons. As Schein¹⁴ observed in his 3-layered model, artifacts of culture are visible, but this is only the surface layer of culture. The metaphor of an iceberg is often used with artifacts, language and behaviors the portion of an iceberg we can see, while much of cultural is invisible, or at least uninterpreted, 'below the water'. This is sometimes described as tacit knowledge and it can be difficult to understand or communicate because it is incompletely codified (Boisit⁴). A simulation-based, experiential learning exercise was adopted as the best approach to convey cultural knowledge to client employees. It has recently been shown to be effective and popular with students in a graduate class.

Client's High-Commitment Culture

The ethnographic method (Spradley^{21, 22}) was developed to define cultural domains and themes. This method was used to study a rapidly growing, software engineering firm. The focus was participant beliefs and attitudes regarding the impact of growth on the culture. The specific concern was the trend toward greater formality, structure, and bureaucracy during a period of rapid expansion, and the impact on the entrepreneurial culture of this young company. The simulation presents both the existing cultural beliefs and attitudes regarding growth, as well as a contrasting mindset employees could adopt to offset some negative influences of growth. A questionnaire measured understanding and acceptance of this "Quality Growth" mindset (tables below). The transition to a more formal structure that accompanies organizational growth is common to many organizations and presents many problems (Schein¹⁵ chapter 12, Abernathy & Utterback¹). Therefore the issues addressed in this simulation are relevant to many managers.

In a decade the client grew from '9 guys in a garage' to nearly 3,000 employees with \$400 million in annual revenues (Figure 1). It became the world leader in a very competitive, very technologically sophisticated market – electronic design automation. The Company developed software used in designing integrated circuits and printed circuit boards. Senior management frequently mentioned their culture as a key contributor to the company's success. A

partial description of the client culture has been published (Schumacher¹⁶) which discusses management practices used since its inception to develop the desired culture in the organization.

More than 200 ethnographic interviews were conducted with employees to determine issues in the existing culture and the ideals that founders and leaders promoted. Deal and Kennedy⁶ proposed a 2x2 matrix of corporate culture types and the client clearly fits in their Work-Hard / Play-Hard culture. Employees in such firms receive rapid feedback and work in an environment of relatively low risk. (Though not as low as in many Bureaucracies.) These cultures are creative, egalitarian, team-oriented, motivating environments where rewards are bestowed on champions and knowledge often trumps position in making decisions. One client story told how the company's first nine employees debated whether they should build hardware and software, or only software. They choose a software-only business model which made the next question, Which hardware platform should we adopt? This was a critical strategic decision which could easily outweigh many other factors in determining the survival of the start-up. The leaders immediately turned to a junior engineer who had studied several platforms and said, "Its your call." Pushing decisions down to the lowest practical level was common practice in the client. Management actively sought employee input in an atmosphere of trust and shared commitment to goals. Many employees commented during interviews that "Tom and Gerry (CEO and President) were the best possible people we could have in those positions." Many of the Silicon Valley, high-tech company cultures would be classified Work-Hard / Play-Hard and the relative absence of unions is one indication of the good relationships between employer and employees in these cultures.

Camelot's Growth Period										
Year	1	2	3	4	5	6	7	8	9	10
Employees	9	36	192	528	777	909	1213	1709	2116	2747
Sales (M\$)	–	2	25	88	137	174	222	300	380	435
Earnings	–	(2)	0	8	8	11	20	34	45	24

The client's rapid growth, with the number of employees doubling every 12 to 24 months throughout a decade, was a major factor influencing many facets of the organization (Figure 1). Employees often expressed pride in their "small company atmosphere", (sometimes referred to as "entrepreneurial culture") but were concerned that rapid growth was causing the company to become more "bureaucratic". Over the course of interviews a framework was constructed that saw "small company atmosphere" (SCA) as nearly a polar opposite to "Bureaucratic Culture". A key dimension of difference was that people in an SCA had a strong Internal Locus of Control. This was a meta-theme observed in other cultural themes. For example, it was explained that "a feeling of accomplishment", was the highest reward the employees could receive. And making certain that employees felt "in control of their own destiny" was a key management goal because this was believed necessary to encourage the exceptional efforts they needed for the organization to win.

Employees were never heard to use the term Locus of Control, but "being in control of your own destiny" was a very common phrase. Leftcourt¹¹ summarized the Locus of Control

literature and Internals have been shown to process information more efficiently, make more sustained efforts to achieve goals, and withstand much higher levels of stress without succumbing. An External Locus of Control is more associated with apathy, reduced effort, giving up when problems are encountered. Employees believed that Bureaucratic cultures, at their core, were inherently External Locus of Control. In a bureaucracy it was said, employees did not feel in control of their own destiny, they rarely had a sense of accomplishment. Rather, they felt they were just another "cog in a machine". Locus of control is a common theme in organizational analysis, as well as literature and film. Charlie Chapman graphically depicted man as a cog in a machine on the assembly line in *Modern Times* (Figure 2). The Dilbert cartoon character, popular among engineers, frequently depicts his life in a bureaucratic organization as one of an External Locus of Control.

Communicating a vision of the future was an important management practice for the client's leaders. This not only linked employee tasks to broader organizational goals, thereby giving them meaning, but reduced anxiety about an uncertain future by showing employees how they could fit into that future. The importance of managerial vision is stressed by authors such as Kouzes⁹ and Senge²⁰ and is the core of Conger's⁵ Charismatic Leadership model (these are course readings). The CEO & President, who were part of the founding team, were seen as keepers of the vision. They talked about it frequently and publicly at announcements of quarterly statements, at User Group conferences, and in the columns they wrote in each issue of the employee newspaper. The vision included a Product / Market Segment description as well as ideals about how employees should act, relate to each other and customers, etc. For example working long hours, each employee setting "a high mark on the wall" and working to achieve that mark, and living up to commitments to the team, were among the expectations described in the vision. In the early days employees had a very strong vision. One spoke of how the vision "pulled me into the future", "created that future" as he saw what he needed to do, how it fit with others' tasks, and how it created success. The general consensus was that a decade later, a much larger organization with new challenges emerging, found their vision was no longer that strong, and there was resignation that "As companies get larger, they become bureaucratic". Although their company vision had diminished over the years, all agreed they still had MUCH more vision than people in a Bureaucratic Culture. In a bureaucracy they said, people had little idea of what was going on in other parts of the organization, had no understanding of how their tasks contributed to organizational success, and did not have a vision for the future.



Figure 2. Modern Times (United Artists 1936)

One aspect of the company-employee and the company-customer relationship was Partnership. A Partnership was a long-term, win-win relationship in which each party understood the other (and actively sought that understanding) and took into account how their decisions and actions would impact Partners. An individual might modify their action so as to avoid a negative impact on one's partner, or inform the Partner about the impending action to allow them to offer alternatives or an opportunity to prepare themselves. When a customer mentioned that a competitor had new product features they wanted, they acted as a Partner allowing the company to improve their product before this became critical. When customers asked about purchasing the company's new Compute Engine product and salesman (who would receive a commission on the sale) sometimes cautioned the customer not to buy, that this product may not yield the full expected benefits in their situation, the salesperson acted as a Partner. The president explained that during a downturn when the board was pressing for layoffs to protect earnings, the CEO refused, arguing it would damage the Partnership with employees. In such a dynamic environment, Partners help by providing information and feedback that can be incorporated into the evolving visions of departments and projects. If they perceived that some aspect of a Partners vision appeared too risky, they could suggest changes.

The goal of coaching employees was to make them feel they were "in control of their own destiny" and several specific coaching behaviors directly supported this. In addition the coach needed to convey the vision, and link employee tasks to the accomplishment of the vision. Some managers were active coaches to their direct reports, others were less comfortable in the role of a coach (these were mostly engineers, and technical skills were often more developed than interpersonal skills). Employees expressed concerns there was not enough coaching taking place. The rapid growth, and evolving vision created a turbulent environment. The growth meant that technical people were being promoted to managers and some did not have a project vision sufficient to create the high level of commitment common in the organization.

In the early days, people in the company had taken large risks in starting the company, and in making some of the early strategic decisions. They also took personal risks by committing to accomplishing challenging goals where there was much uncertainty. The company had become more financially stable with a growing installed base and people now took fewer risks.

The company never wanted people to 'gamble', to take large risks with uncertain payoffs. However it seemed there had been a loss of risk taking ability. It had become a norm not to take many risks, or even a rare sizable risk. New employees had never experienced the early days and so had no memory of, or role models for taking a large risk. There were occasionally opportunities to try a new approach, and some of these could lead to substantial gains. Employees wondered whether they were losing their ability for break-through innovation. They knew that in bureaucracies people seldom took risks. The ability to respond quickly, to "turn on a dime", they believed allowed them to adapt to the rapid change in their business environment. But seizing such opportunities required taking risks.

A final set of behaviors that employees frequently mentioned was "Pushing Back"¹. When someone believed there was a need to change, for example a decision had been made, or a rule suggested that they believed was wrong, they might seek out those who had ability to make that change and Push Back; work with them, contributing time and energy to resolve the situation. Simply complaining about a situation was seen as poor behavior, soiling the nest with unhappiness. If something really warranted change, the correct response was to make efforts to positively resolve the situation. The president frequently asked people to Push Back if they saw things that needed change. "Nobody has all the answers. We need people to push back to change and improve. When people stop Pushing Back, we die." Employees also noted that Pushing Back was somewhat risky. People could be offended when you suggested that they change. Establishing a good relationship with the other, a Partnership, would support working to make changes in a situation that often held potential for conflict.

Employees expressed confidence in approaching most issues. "Winning" was the first item in the client's Corporate Values Statement. The company had overtaken rivals and emerged as the world leader in their segment. When industry giants such as HP and IBM indicated that this segment looked promising, they might enter it, the response was, "We can run rings around those guys". So it seemed an anomaly that the client adopted an external locus of control regarding the challenge of organizational growth. ("Growth results in Bureaucracy".) Strategically, it was considered absolutely necessary for the company to grow at least as fast as their market grew. But it was recognized that rapid growth certainly had some negative side effects. Could it be possible that the company continue to grow without loss of its small company atmosphere? Employees were certain forces were acting against such an outcome. But what if employees actively resisted this unwanted change instead of accepting bureaucracy as a unalterable future?

Simulation dynamics

Participants are placed in a role of managing a department. Their choices focus on how to allocate their time between completing tasks, building the vision, coaching employees, forming and developing partnerships, taking risks, or pushing back on other departments. In an initial game, the manager strategy is presented as a description of a company culture in which you will work. You want to fit in and be accepted. Coworkers offer suggestions and feedback. Attitudes and interpretations of events are presented in the initial role statement and in various simulation

¹ Gerstner⁹ describes 'Push Back' in his book about IBM culture. The similar term 'Pushing Back' had a different, and more positive meaning in the client's culture.

features such as email messages. In the client training classes built around the simulation, employees read this cultural description, discussed it in small teams, and presented brief summaries to the larger group. Their conclusion: "It fits like a glove. This is a very accurate description of our culture and situation."

The simulation model is structured so that company growth tends to produce a progressively more bureaucratic organization in which it becomes more difficult to accomplish tasks. Observing simulation participants, one can easily see where, at some point, they realize the situation is sinking, and they react negatively to what now seems an inevitable external locus of control. Winning is no longer an attainable goal. Participant teams compete against each other in the initial game. Someone wins, but it seems a somewhat hollow victory. The Small Company Atmosphere is lost, I now work in a bureaucracy, and - as I knew - it is not much fun.

The simulation allows a possible path to continued growth while maintaining the small company atmosphere. Bureaucracy can be avoided, but this is not an obvious strategy. In a second game, participants work in a different company and receive a different cultural description. This offers contrasting descriptions on a number of key dimensions from those in game one. For example, in game one vision is important, and the vision comes from the senior managers. In game 2, vision is even more important, senior managers again make the same important contributions, but this is seen as insufficient with continued rapid growth. Each manager (simulation participant) must make substantial additional efforts to build the vision within their group. This is pushing responsibility down the hierarchy, consistent with the existing culture. It directs participants toward where they need to make additional efforts, and take on additional responsibility, to ensure an effective response to the stresses of rapid growth.

Another example contrast is that in the initial game conditions, rewards for Pushing Back are rare. This behavior dies out quickly among participants. In the Culture adopted in game 2, people are expected to Push Back regularly even if they perceive no benefit to themselves. The reward structure for Pushing Back is the same in both games. Rewards flow not to the person Pushing, but to the person 'Pushed', and the rewards are delayed. Senge²⁰ describes the greater difficulty of learning when there is delay between action and feedback and suggests that a powerful benefit of simulations is their ability to compress time, and thereby accelerate learning. The cultural interpretations in the role in the second game lead participants to explore extended efforts to Push Back, a pattern they typically avoid in the first game. If participants can establish a pattern of Pushing Back on each other, they realize benefits they previously did not capture. The advice of coworkers in the second game, and the feedback available to participants allows them to realize the benefits of several such positive-sum feedbacks and successfully chart a growth path that avoids bureaucracy.

The effectiveness of the simulation as a teaching tool follows from its presentation of contrasting interpretations of events. It provides participants an immersive experience of the client's culture, and how rapid growth drove changes to that culture. The choices available to participants highlight the ability of management to influence the culture, the central task of leadership (Senge²⁰).

Assessing change

In the context of client training classes, a 40-item questionnaire was developed from statements collected in the interviews. These items were divided among 8 subscales. The issues were conceived as a hierarchical structure with a more abstract capstone scale, "It is possible to grow and avoid bureaucracy", and lower level, more concrete items, such as, "Managers have opportunities to avoid bureaucracy". Those opportunities include the simulation choices, Building Vision, Coaching, Partnerships, Taking Risks, Giving Rewards, and Pushing Back. Example questionnaire items included:

1. **Possible to Avoid Bureaucracy.** Items in the first dependent variable ask if it is possible that the organization can continue to grow while avoiding bureaucracy, a position opposite to the wide spread "bureaucratic inevitability" belief encountered in the interviews. Examples are: "As organizations grow it is inevitable that they become more bureaucratic." (reverse scored) and "It is possible for Mentor Graphics to become very large while still retaining its 'small company atmosphere.'" There were five questionnaire items and Alpha was .66.

2. **Bureaucracy Definition.** The second variable was included to measure the definition of 'bureaucracy', a concept that had different definitions for different employees (though they consistently evaluated it negatively). There were five items including: "A 'small company atmosphere' is nearly the opposite of a bureaucratic culture." and "An organization feels more bureaucratic to individuals who do not have a vision of how they fit into the future of that organization." Alpha was .74.

3. **Opportunities.** This variable had a scope narrower than variable 1 and broader than variable 5. The items asked if employees had opportunities to take the actions in the lowest level of the hierarchy. Examples are: "There are considerable opportunities for each employee to reduce or inhibit bureaucracy at Mentor Graphics." and "There is little that most individuals can do to prevent the spread of bureaucracy as an organization becomes large." (reverse scored) There were four items and an alpha of .71.

4. **Responsibilities.** Like variable 3 this variable was in the middle of the hierarchy. It measured whether employees felt they had a responsibility to take the actions at the bottom of the hierarchy and maintain the 'small company atmosphere'. Examples are: "Mentor Graphics' employees have a responsibility to prevent bureaucracy in the company." and "Managers at Mentor Graphics have a responsibility to communicate a vision of the future to the employees in their group." There were four items and alpha was .68.

The remaining variables were at the bottom of the frame of reference hierarchy and were narrower in scope and more concrete, in addressing specific actions employees could take, then items in the preceding variables.

5. **Example Anti-Bureaucracy Actions.** Items in this variable link actions that individuals could take to the inhibition of bureaucracy. Example items are, "Employees at Mentor Graphics can help reduce bureaucracy by forming partnerships with people in other parts

of the company.” and “When managers communicate the vision of the company to employees, they help prevent bureaucracy.” There were seven items and alpha was .80.

6. **Need for change.** Variable 6 assesses whether participants believe there is a need for changes in the organization regarding the actions in variable 5. Examples include: “To maintain our small company atmosphere at Mentor Graphics, we will need to put greater efforts into ‘pushing back’ in the future.” and “In the future we will need to do a better job of forming partnerships at Mentor Graphics”. There were six items and alpha was .74.

7. **Partnerships.** The final two variables were elaborations of two actions that were considered to be “anti-bureaucratic” in variable 5 and “needing change” in variable 6. The first of these was the formation of ‘Partnerships’ a cultural concept of a type of relationship between employees. An example is: “It is important to take the time to build partnerships with others at Mentor Graphics.” There were four items and alpha was .62.

8. **Coaching.** The final variable elaborated the concept of coaching. The simulation role included the goal of coaching all employees to be ‘winners’. Examples include: “The key to coaching is to give employees a sense that they are in control of their own destiny.” and “One important part of coaching is to convey to the coached person how their tasks fit into the vision of the company’s future.” There were five items and alpha was .73.

Results

A random sample of employees was sent the questionnaire. Those returning completed questionnaires were assigned either to a control group or were invited to attend a corporate training class and play the simulation. A total of 122 employees experienced the simulation during a series of 11 classes. A post-simulation questionnaire was sent to each participant 15 days after their simulation class. Table 1 displays the Control group data. Lee and O’Leary¹⁰ found that subject enjoyment of simulations correlated with pedagogical effectiveness. Subjects were asked to evaluate the usefulness of the WADA simulation experience in another question, “I think that playing the simulation is a worthwhile experience for learning about the culture in the company where I work (not worthwhile 1 2 3 4 5 6 7 very worthwhile)”. The average response to this question was 6.25 (N = 96).

Dependent Variables	Pre	Post	Change ^o	t*	P
Quality Growth	5.13	5.20	.073	1.380	.1754
1 Possible to Avoid Bureau.	3.57	3.56	-.005	-0.032	.9749
2 Bureaucracy Definition	5.38	5.32	-.054	-0.322	.7493
3 Opportunities to Act	4.57	4.71	.140	0.761	.4514
4 Responsibility to Act	5.47	5.38	-.098	-1.122	.2687
5 Example Actions	4.94	5.04	.101	1.015	.3162
6 Need for Change	5.55	5.78	.232	2.427	.0198•
7 Partnerships	5.39	5.78	.369	2.595	.0133•
8 Coaching	5.98	6.03	.059	0.802	.4274

• P < .05
* Two tailed paired t-Test.
^o The change, t, and p values were calculated in the paired t-Test routine which eliminates cases when either pre or post score is missing. The average pre and post scores were calculated in separate routines. The change value does not always match the pre and post difference because a few additional cases may be missing from this calculation.

Table 1. Control group (N=41)

Table 2 shows data for a group who experienced the simulation. There is significant attitude change for these employees on every subscale except "Opportunities to Act". Further analysis showed there was significant change for male but not female subjects on this subscale. (The treatment group shown was 50% female. For the organization, females were about 18 percent of employees.) Gender issues were not addressed in the simulation. This data may indicate gender-related issues in the organization, but these were not the focus of the changes this simulation was designed to address.

Dependent Variables	Pre	Post	Change	t*	P
Quality Growth	5.00	5.52	.514	3.154	.0016•
1 Possible to Avoid Bureau.	3.62	4.06	.434	2.909	.0031•
2 Bureaucracy Definition	5.27	5.73	.400	2.493	.0088•
3 Opportunities to Act	4.62	4.79	.176	0.877	.1932
4 Responsibility to Act	5.59	6.18	.557	5.354	.0001•
5 Example Actions	4.86	5.61	.783	6.376	.0001•
6 Need for Change	5.49	6.16	.673	7.030	.0001•
7 Partnerships	5.82	6.15	.338	3.159	.0017•
8 Coaching	5.94	6.26	.324	2.460	.0093•

• P < .01
* One tailed paired t-Test.

Table 2. Treatment group (N=37)

Simulation modification for classroom use

The simulation incorporates what is called a "Paired Game" design (Schumacher¹⁴). The simulation has participants play an initial game, review their results, then play a second game, again beginning with the initial conditions. These games are different in that the cultural roles are different, thus offering different interpretations of events and suggesting different strategies for

success. Players universally improve their scores in the second game. In the initial game participants' focus is directed toward competing with other companies. In the second game, simulation features remind them of their own performance in game one and they 'compete' more with their own previous scores. This design offers a scaffolding that stimulated employees to rethink their attitudes and beliefs about links between organizational growth and their culture.

Conversations with several professors who teach Organizational Behavior indicated their interest in having better classroom exercises for teaching organizational culture. It was decided to modify the simulation developed for the corporate client so that it could be effective in a college setting. Students would not have any first-hand experience with the organization or its culture which were the context for making sense of the simulation experience. The roles that were developed in the original version of the simulation, and influence participant interaction with the simulation software, offer interpretations of simulation events. Only small additions to these roles were necessary to provide students with sufficient context to draw meaningful lessons from the simulation. In 2009 the simulation was first used as a case in the graduate course "Leadership and Organization Culture" and students reported they enjoyed and learned from the experience. This was a qualitative assessment drawn from the written analysis of the simulation experience each student completed. Their feedback was incorporated into the simulation and included in following presentations of that course. Additional assessments have been made in successive course presentations.

The largest modification is in how the simulation represents knowing other employees. Employee interviews indicated that in the early years, their "small company atmosphere" included knowing most of the other employees and most communication was informal and face to face. As the company grew from less than 100 to several thousand employees, the feeling of not knowing others, not knowing what other parts of the company were doing, was one element of their culture becoming more bureaucratic. The software represented "knowing others" by having participants view randomly selected photographs of employees and asking them to match the correct employee name. Students obviously would not recognize any of the employees so a new set of photographs was developed and the simulation now incorporates a "learning employees" component at its beginning. This mimics knowing other employees. Knowing others is part of the Partnership theme, one of five major themes discovered in the client culture that are represented in the simulation. Substantially less modification was needed in the other themes in adopting the simulation for student use.

The simulation was rewritten at the coding level, thought this is invisible to users. The simulation was originally written in HyperCard and therefore needed to be ported to a platform that is currently viable. The RunRev platform (www.runrev.com), also in the SmallTalk genre, offered excellent functionality including support for creating executable files for all major operating systems.

There is a substantial difference in the speed at which individuals play a simulation. In a classroom setting where the instructor can observe and encourage students, the WADA simulation takes about two hours to introduce, conduct and debrief. Many students requested that they be able to download the software and explore it on their PCs. They believe this would be an

improved learning experience. The simulation is undergoing additional modifications in order that students will be able to download the software and use it as an out-of-class assignment.

Discussion

Founders made substantial efforts from day one to create a culture they believed would support a successful business. They created a high-commitment culture and a decade of rapid, profitable growth. They strongly believed the major elements of the culture, Vision, Coaching, Pushing Back, etc., were strong contributors to company performance. Negative consequences of growth were becoming apparent as company growth approached 2000 employees. The small company atmosphere was eroding and employees expressed concerns about becoming more bureaucratic. A 1-hour video tape was made that captures employee views about the cultural issues addressed in the simulation.

The goal of the original project was to develop a training simulation that the client could use in directing change in their organizational culture. The focus of this change was asking employees, especially managers, to make efforts to preserve the Small Company Atmosphere. Attitude change data indicates the simulation was successful in conveying a new set of beliefs and attitudes toward company growth. Experiencing the simulation offers a rich experience of this organization's culture and the growth-related issues they faced.

Providing students with even a superficial understanding of organizational culture is a challenge. Descriptions of culture types, such as offered by Deal & Kennedy, are abstractions that do not present the richness and variety of a specific organizational culture. Written descriptions of cultures (e.g., Parker¹², Schein¹⁵, Gerstner⁷) are useful, but often fail to demonstrate the dynamics of how individual attitudes and behaviors contribute to, and are constrained by, an organization's culture. This interactive simulation provides experiential learning that offers a much richer, deeper understanding. The modified simulation described here offers an engaging experience that can introduce students to organizational culture, and specifically to attributes of a high-commitment culture.

References

- [1] Abernathy, William & Utterback, James, (1978). Patterns of Industrial Innovation, *Technology Review*, 1978
- [2] Bennett, Milton, (1979). Overcoming the golden rule: Sympathy and empathy, *Communication yearbook 3*, Nimo, D., (Ed.)
- [3] Bennett, Milton (1986). Towards Ethnorelativism: A Developmental Model of Intercultural Sensitivity, in *Cross Cultural Orientation: New Conceptualizations and Applications*, Paige, Michael (ed.), University Press of America.
- [4] Boisit, Max H, (1998). *Knowledge Assets*, Oxford University Press.
- [5] Conger, Jay & Kanungo, Rabindra, (1998). *Charismatic Leadership*,
- [6] Deal, Terrence & Kennedy Allen (1982). *Corporate Cultures*, Addison-Wesley Publishing Company, Inc.
- [7] Gerstner, Louis, V. (2002), *Who Says Elephants Can't Dance?*, HarperCollins Publishers.
- [8] Kotter, John and Heskett, James, 1992, *Corporate Culture and Performance*, The Free Press.
- [9] Kouzes, James, and Posner, Barry, (1988). *The Leadership Challenge*, Jossey-Bass Publishers.
- [10] Lee, Robert S., and O'Leary, Arlene (1971). Attitude and Personality Effects of a Three-day Simulation, *Simulation and Games: An International Journal of Theory, Design and Research*, 2:309-347.
- [11] Leftcourt, Herbert M. 1982. *Locus of Control: Current Trends in Theory and Research*, Lawrence Erlbaum.
- [12] Parker, Martin, (2000). *Organizational Culture and Identity*, Chapter 6, Sage Publications.
- [13] Reichers & Schneider, 1992, in Schneider (ed.) *Organizational Climate & Culture*,
- [14] Schein, Edgar, (1985). *Organizational culture and leadership*, Jossey-Bass.
- [15] Schein, Edgar, (2010). *Organizational culture and leadership*, 4th edition, Jossey-Bass.
- [16] Schumacher, T. R., (1997). "West Coast Camelot: the Rise & Fall of a High-Tech Culture", Chapter 6 in *Cultural Complexity in Organizations*, Sonja Sackman (Ed), Sage, 1997.
- [17] Schumacher, Terry, (1999). "Communication and Culture", Book 2, in course materials for 'Managing Knowledge', MBA course B-823, The Open University Business School.
- [18] Schumacher, T. R., (1992). *Simulation Design, Role Identification and Attitude Change in a High Technology Culture*, doctoral dissertation in Systems Science, Portland State University.
- [19] Schumacher, T. R., (2009). The Virtual Team Challenge: Is it time for training?", *International Journal of Technology Management*, June, p 169-181.
- [20] Senge, Peter (1990). *The Fifth Discipline*, Doubleday.
- [21] Spradley, James, (1979). *The ethnographic interview*, Holt, Rinehart and Winston.
- [22] Spradley, James, (1980). *Participant observation*, Holt, Rinehart and Winston.

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