



**De La Salle University**



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# **The Graduate School of Business**

In Partial Fulfillment Of The  
Requirements for the Subject  
**ORGANIZATIONAL BEHAVIOR & PROCESSES**

A case study



**DU PONT: DOWN AT THE PLANT**

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## I. CASE BACKGROUND

With the abundance of water, cheap coal, and salt springs in the small town of Belle, a huge DuPont chemical plant was established there in 1926. It was the first synthetic-ammonia facility in the US and the first producer of commercial nylon intermediates. In



the 50-60 years since then, Belle's citizens have been living with the sight of large storage tanks and a manufacturing plant with unpleasant odors emanating from its facilities. As a result, people of Belle have been caught in the middle of being thankful for the jobs that Belle has generated and in a growing resentment for the adverse impact of the plant on their daily lives.

Suspicion and distrust of the plant and its managers, fear of a disastrous event that could threaten the citizens' lives and the lack of care from Belle's plant managers, have added to the resentment of Belle's people by

**Figure 1 Map of Belle, West Virginia**

1987. The relationship between the town and the plant was worsening as the odors coming from the plant caused increasing concerns. Parts of the plant were very old and in a state of deterioration, physically and psychologically. With the obsolete equipment and inefficient, wasteful manufacturing operations, the need for major overhaul was critical to address various quality and cost considerations. The plant was also facing the need to reduce the number of employees increasing the frustration of people and widening the gap between management and the town. Accidents and injuries had also escalated beyond The DuPont Company's standards. Management's relationship with the community, and to its economic and social environment seemed quite indifferent. Because of all these, the executives of the DuPont's head office in Delaware had become dubious of the ability of Belle's management to deliver the needed results and so everybody feared that the plant could close down in the near future.

Dick Knowles was transferred to the plant manager assignment from Niagara Falls, New York to Belle, West Virginia. Partly because of Claire's positive impact on him, Dick has undergone a significant transformation in his personal life and management style that extended to his experience in the new plant manager assignment in Belle. Moving from a command and control approach to management, using bad language and sometimes demeaning people to get things done, Dick developed and used a new management style for Belle Plant, which was based on complexity theory: emphasizing valuing people for themselves, attending to relationships, trimming down hierarchy and participating with everyone in the communications. The results were noteworthy. Injury rates were down by 95 percent. Environmental emissions were reduced by more than 87 percent. Up-time of the plant increased from an average of 65 percent to 90-95 percent. Productivity

increased by 45 percent and earnings per employee tripled. Aside from these very obvious successes in terms of quantitative results, there has been a significant positive change in the relationships of employees and management in the plant and with the community around Belle.



**Figure 2 DuPont. Niagara Falls Plant**

Though the new style of management was energizing, stimulating and fun, there were several times during the transition that Dick felt somehow scared and unsure about whether they are on the right track. There were many times that he struggled with the temptation of falling back to the comfort and safety of the old command structures, especially because he was not sure about how to keep things in control and not to lose focus with the new style of management. He did not want to issue directives and dictate how to achieve the results and desired outcomes.

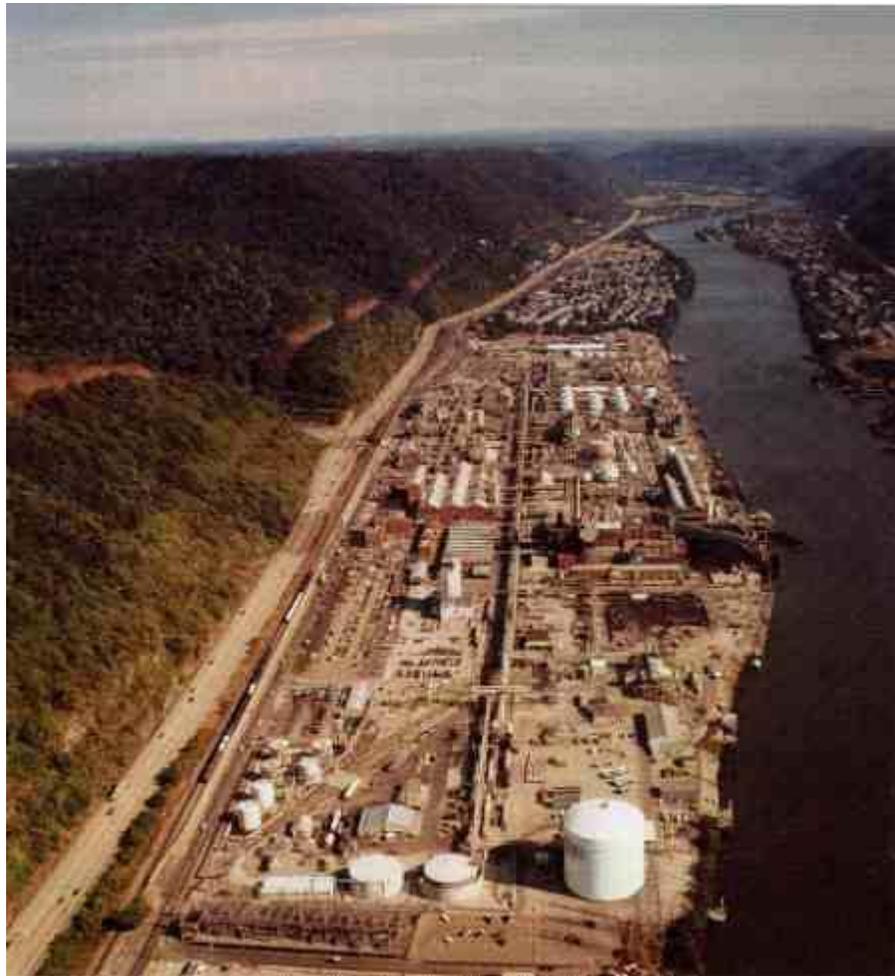
The following were the other actions taken by Dick at Belle:

- Creation of genuine teams including management teams that allowed participative communication, decision making, problem solving and brainstorming for continuous improvement
- With the Leadership Team they established of a list of “treatment-of-people principles” that management had promoted and had to live by. These were issued to everyone and the Leadership Team people asked everyone to help them live up to them. In responding to this invitation, the “treatment-of-people principles were rapidly adopted across the plant.

The Treatment of People Principles are as follows:

- People want interesting work.
  - People want opportunity for learning and growth.
  - People can be trained.
  - People want equal opportunities at work.
  - People want responsibility in their work.
  - People “want in” on decisions that affect them.
  - People expect management to lead not abdicate.
  - People expect a leadership team to be consistent and predictable.
  - People want to be part of a winning team.
  - People want to know what’s going on at Belle- in the department and in the company.
  - People want to be informed.
  - People want fair pay and knowledge about how the pay system works
  - People have a need to relate to others in the job.
  - People want rational rules.
  - People want to be treated like people- people have ego needs.
- Flattening the organization and giving more decision making and control to people working in the plant.

After Dick's stay at Belle, the results were noteworthy. Injury rates were down by 95 percent. Environmental emissions were reduced by more than 87 per cent. Up-time of the plant increased from an average of 65 percent to 90-95 percent. Productivity increased by 45 percent and Earnings per employee tripled. Aside from these very obvious successes in terms of quantitative results, there has been a significant positive change in the relationships of employees and management in the plant and the relationship of management with the community around Belle. Thirteen years later the plant is smaller and still profitable.



*Figure 3 DuPont, Belle Plant*

## II. COMPANY BACKGROUND

### A. Origins of the company

E. I. du Pont de Nemours and Company, an American chemical company, was founded in July 1802 as a gunpowder mill by Eleuthere Irenee du Pont. E.I. du Pont used capital raised in France and imported gunpowder machinery from France. The company



*First explosive machine of DuPont*

was started at the Eleutherian Mills, on the Brandywine Creek, near Wilmington, Delaware, USA two years after he and his family left France to escape the French Revolution. Du Pont noticed that the industry of gunpowder manufacturing in North America was lagging behind Europe, and saw a market for it. The business grew rapidly, and by the mid 19<sup>th</sup> century became the largest supplier of gunpowder to the United States military.

DuPont continued to expand as decades went by having the great-grandsons of E.I. du Pont manage the business. It subsequently began to purchase several smaller chemical companies which built their dominance in the explosives business.

### B. The Life Track of the Company / Track Record

In 1902 to 1912, DuPont moved into the production of dynamite and smokeless powder. It established two of the first industrial laboratories in the United States, where they began the work on cellulose chemistry, lacquers and other non-explosive products. DuPont Central Research was established at the DuPont Experimental Station across the Brandywine Creek from the original powder mills.



In 1914, DuPont would assist the struggling General Motors, an automobile company, by buying GM stock at \$25 million. Under DuPont's support, GM became the leader in the automobile industry by 1920.

In the 1920's, DuPont invented and manufactured neoprene—the first synthetic rubber—and the first polyester super polymer. In 1935, it first introduced the chemical phenothiazine as insecticide, and nylon.

During the World War II, DuPont continued to be a major producer of war supplies. It helped produce the raw materials for parachutes, powder bags, and tires.

In the post WWII, DuPont continued to introduce new materials and develop military paraphernalia such as the modern body armor, Flak jackets, etc.

In 1981, DuPont acquired Conoco Inc., a major American oil and gas producing company that gave it a secure source of petroleum feed stocks needed for the

manufacturing of many of its fiber and plastics products. This placed DuPont in the top ten U.S.-based petroleum and natural gas producers and refiners.

In 1999, DuPont sold all of its Conoco shares, shifting the company’s focus towards producing DuPont chemicals from living plants rather than processing them from petroleum.

In 2004, the company sold its textile business, which included some of its best-known brands such as Lycra Spandex, Dacron polyester, Orlon acrylic, Anton nylon and Thermolite, to Koch Industries.

In 2005, DuPont ranked 66<sup>th</sup> in the Fortune 500 on the strength of nearly \$28 billion in revenues and \$1.8 billion in profits.

DuPont businesses are now organized into five categories: Electronic and Communication Technologies, Performance Materials, Coatings and Color Technologies, Safety and Protection, and Agriculture and Nutrition.

DuPont had been faced with several environmental hazards concerns from different sectors. Researchers at the Political Economy Research Institute of the University of Massachusetts Amherst ranked DuPont as the largest corporate producer of air pollution in the United States. Because of its discovery of CFC’s (chlorofluorocarbons), public concern on environmental hazards rose, thus leading DuPont to cease selling and phasing out CFC’s, and in replacing CFC’s with new generation of refrigerant chemicals. In 2003, DuPont was awarded the National Medal of Technology, recognizing the company as the leader in developing CFC replacements.

*C. People Involved in the Company*



- ♣ Founder : Eleuthere Irenee du Pont
- ♣ Executives : Charles O. Holliday, Jr., Chairman
- : Ellen J. Kullman, President and CEO
- : Jeffrey L. Keefer, CFO
- : Richard R. Goodmanson, Exec. VP & COO
- : Thomas M. Connelly, CTO

♣ Board of Directors (as of January 2009)

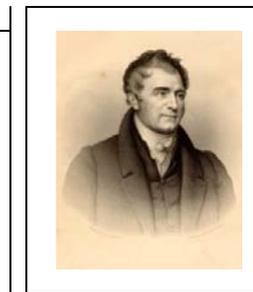
- o Charles O. Holliday
- o Ellen J. Kullman
- o Richard H. Brown
- o Robert A. Brown
- o Bertrand P. Collomb
- o Curtis J. Crawford
- o Alexander M. Cutler
- o John T. Dillon
- o There du Pont
- o Marillyn Hewson
- o Lois D. Juliber
- o William K. Reilly

On September 2008, DuPont announced Ellen J. Kullman as its president and director of the company effective October 1, 2008, and CEO effective January 1, 2009.

## ♣ Background on major personalities

Eleuthere Irenee du Pont (1771 – 1834)

- a French-born Huguenot chemist and industrialist; studied chemistry with Antoine Lavoisier.
- son of Pierre Samuel du Pont de Nemours
- migrated to the US in 1799
- founded the gunpowder manufacturer, E.I. du Pont de Nemours and Company
- married Sophie Dalmas (1775 – 1828) in 1791 and had eight children
- established his business and his home, Eleutherian Mills on the Brandywine Creek in Delaware by 1802
- brought an expertise in chemistry and gunpowder making during a time when the quality of American made gunpowder was very poor

Eugene du Pont (1840 – 1902)

- grandson of Eleuthere Irenee du Pont
- graduated from the University of Pennsylvania
- joined the business in 1861 as an assistant at the Brandywine Mills laboratory
- became junior partner in 1864
- filed two patent applications (gunpowder press and new variety of powder brown prismatic) in 1886
- succeeded Henry A. du Pont as senior partner in 1889
- saw the rise of the dynamite industry and helped form the Eastern Dynamite Company in 1895

Pierre S. du Pont (1870 – 1954)

- born in Wilmington, Delaware and was named after his famous ancestor, Pierre Samuel du Pont de Nemours
- graduated with a degree in chemistry from MIT in 1890
- became assistance superintendent at Brandywine Mills
- was the president of DuPont company from 1915 to 1919
- served on its Board of Directors until 1940
- also managed General Motors

Wallace Hume Carothers (1896 – 1937)

- American chemist, inventor and the leader of organic chemistry at DuPont
- Invented Nylon and helped lay the groundwork for Neoprene synthetic rubber
- Received PhD from the University of Illinois and taught at several universities before he was hired by DuPont to work on fundamental research
- Had been troubled by periods of mental depression since his youth
- Died after drinking a cocktail of lemon juice with potassium cyanide

Chad Holliday (1948 -)

- DuPont's CEO since 1998
- Served as chairman in 1999
- Rose through manufacturing positions
- Led DuPont's global Nomex® and Kevlar® businesses
- Served in a series of leadership positions in Asia culminating with his appointment as chairman of the Asia Pacific Region
- Started at DuPont in 1970 at the company's Old Hickory site
- Graduate of BS Industrial Engineering from the University of Tennessee
- Licensed professional engineer
- Elected member of the National Academy of Engineering
- Former chairman of the Business Roundtable's Task Force for Environment, Technology and Economy; World Business Council for Sustainable Development (WBCSD); and the Society of Chemical Industry – American Section
- Currently Chairman of Council on Competitiveness
- Co-writer of a book, "Walking the Talk"



### **III. COMPANY PROFILE**

#### **A. Vision & Mission**

"Our vision is to be the world's most dynamic science company, creating sustainable solutions essential to a better, safer and healthier life for people everywhere."

"DuPont has a mission of sustainable growth, which we define as the creation of shareholder and societal value while we reduce our environmental footprint along the value chains in which we operate."

#### **B. Corporate Philosophy**

"The company has three growth strategies: Put Science to Work, Go Where the Growth Is, and Capitalize on the Power of One DuPont."

#### **C. Company Values**

"The core values of DuPont are the cornerstone of who we are and what we stand for. They are: safety and health, environmental stewardship, highest ethical behavior, and respect for people."

## **IV. THE ORGANIZATION**

### **A. Structure: How is the company organized**

We will focus on the Belle plant for the Organizational Structure. The Plant Manager, Dick Knowles, was the head of the plant and had overall authority. He could hire and fire people, had capital authority of \$50,000 and purchase order authority of \$250,000. He was held responsible and accountable for everything that happened in the plant.

They had 6 levels of supervision which indicated a hierarchical organizational structure. With this kind of set-up, it took a lot of time for an action to be approved. As mentioned in the case, sometimes even the manager did not know what happened to his people.

As this is a chemical manufacturing plant many functions are needed.. The people were organized according to function such as production, engineering, accounting, chemists and technicians.

Also work specialization is required in each function, as it is in most manufacturing plants.. They needed to make efficient use of the employees' skills as some processes required detailed work and trained personnel. Some tasks were performed by untrained workers.

### **Group Behavior**

Initially, the levels of trust between the manager and the people at all levels were low. It took several years of extensive, personal interactions to break through this with most of the people. Belle had a bad reputation within DuPont. They had about the poorest safety performance among about 150 plants and their attitude towards their corporate partners and customers was indifferent. Dick came in as an outsider to both the plant and the operating department in which they reported. No one knew him. He knew that he needed to establish trust as quickly as he could and meet as many of the people as possible. Some of his direct staff resented him for being there. Within the first 4 weeks he met just about all 1300 people and heard a lot of bitter complaining.

### **B. Departmentalization/Chain of Command**

Dick had overall command of the plant. But, as is the case in many organizations, the chain of command concept at Belle was not very effective. Departmental managers and even some supervisors didn't know what happened on their teams. Many of them shirked their command responsibility and didn't care at all. Some didn't even have control of their employees anymore. Employees were not empowered. But over the years, when Dick began this style of management, employees were able to decide upon situations and sharpen their judgment skills. This gave them confidence not only on themselves but on the management as well. What Dick was telling them was that "We trust you and we know you can do the job". This is very liberating for the employees and this made them more committed to the overall goals of the plant.

On the department level, we assume that they were grouped according to function and process. Function, because of the plant's size and complexity, and the need to have efficiency at every level, people with common skills like maintenance and accounting, were grouped into a common unit.

Chemical process operations were grouped according to the nature of the processes and the markets they served. Each chemical process was unique and underwent specific steps to reach its final product or finished good. Each process required a set of different skills and methods. Each step had different processes as well..

### **C. Span of Control**

The Belle plant, with Dick at the helm, became very efficient. Part of this was because he had a wide span of control. When he started out, there were a lot of levels of supervision. By his account, he spent a lot of time walking around the plant, looking, listening talking and just observing. He kept track of the time he spent with those who did not report directly to him for a 5 year period, day-by-day; he averaged 5 hours a day in this aspect of the work.

He did not issue directives or make decisions during these times in the plant. Decisions were made with supervision and those involved at other times so the authority of the management line was not compromised.

He did not have an assistant plant manager. After several years the plant was able to eliminate first line supervisors from the shifts so that about 80 operators reported directly to a single shift supervisor. He sped up decision making, helped the people to become empowered and got to know many of them personally.

### **D. Centralization-Decentralization**

From centralization to decentralization, Dick Knowles made it happen. Since he wanted everyone to be accountable, he wanted everybody to provide input on how to solve problems for he believed in each individual. This helped the people become more responsive and flexible. Dick also made sure that even though he insisted that they decide on situations, he knew what was going on around the plant. He knew the details of the problems because he was being consulted on some of the decisions, as well as having learned about things as he walked around the plant.

## **V. LEADERSHIP, POWER AND POLITICS**

### ***Leadership***

The leadership style of DuPont, as an organization, is greatly influenced by its leaders and managers' style. As the individual leader undergoes a metamorphosis, so does the organization.

Dick Knowles, as leader, was initially an advocate of a heavy-hand leadership style. His stint in the Niagara Falls Plant, and the powerful influence of his predecessor managers and mentors, compelled him to carry out such style.

Following Dick's transformation as a leader, he had metamorphosed into someone who's in touch with human nature. He had learned to listen to and act on inputs from his "soft side".

**Trait Theories Point-of-View**

After several years of stay at Belle Plant, Dick Knowles had shown extroversion, courage, and enthusiasm as plant manager.

As an extroverted leader, he reached out the production workers by conducting meetings even without the presence of the latter's managers and/or supervisors. He would talk to the ranks, know their insights, and learn from them as well. This style was carried down to the managers and supervisors in the plant. All the while, he was sensitive to the needs of the line supervision and their responsibilities.

Dick demonstrated that he was a courageous leader when he would "fight for" the new management style. He had embraced the complexity of his team, hence allowing each employee to work at their competency pace. He permitted everybody to "experiment" in the work place, even though he was fearful of the fact that they are lying on the edge of chaos. Moreover, his audacity to be transparent to the community defined his courageousness. He was willing to "open DuPont" to the community for the sake of corporate social responsibility (CSR).

As a leader, Dick expressively manifested enthusiasm during his stint at Belle Plant. His verve in reaching out to all the levels of the organization and their concerns was validated when he would come up with programs and systems that amplified the capabilities of each person helping them to become empowered. He likewise exemplified an enthusiastic leader when he pushed Belle's CSR issues.

**Behavioral Theory Point-of-View**

Essentially, Dick Knowles was an employee-oriented/ business-oriented leader. He was inclined to attend to the interpersonal relations of the work force within Belle Plant. He addressed the needs of the employees by stripping down the barrier walls between the management and the ranks. He opened up the communication lines of the internal work players. In his acceptance of the differences of the individuals he moved away from the traditional command-and-control system of management..

Consequently, being an employee-oriented/ business-oriented leader, productivity followed. As revealed in the case, the bottom line improvements were impressive.

**Path-Goal Theory Point-of-View**

At first it was not easy for Dick Knowles to accept criticisms from his colleagues at Belle Plant. It was birth pain, but he had to endure such temporary condition because he thought the effect was long-term, and perhaps "better". Hence, Dick was both a supportive and participative type of leader. He showed concern for the needs of his followers, at the same time he took time and effort to listen to the followers' suggestions or feedback before arriving at a decision.

**Inspirational Approach Point-of-View**

Evidently, Dick Knowles inspired his employees to "transcend their own self-interests for the good of their organizations" (Robbins 2008). His managers, supervisors, and team leaders were able to pass on the change that Dick introduced to the culture. This made him a transformational leader.

### ***Power, Politics and Authority***

The base of Dick Knowles' power as leader at Belle Plant was more of a formal power than personal. He was initially being followed by the employees because of his legitimate power as the plant manager. He created rules and regulations in the work force being the person with the highest position. He injected change in the Belle culture utilizing the authority vested upon his position. Eventually, the base of his power became referent. He was followed by the employees because of the respect and admiration he gained.

Political behavior in Belle Plant was primarily influenced by organizational factors. There existed individual factors that contributed to the political behavior of the plant, but it was the wide variation of individual differences that contributed to the organizational politics. Dick Knowles started out in Belle with a broad line between the managers and the workers: supervisors intimidating the ranks to politicize the managers, including Dick himself. This was evident when Dick called for a meeting with the workers excluding their supervisors and managers.

By and large, DuPont as an organization also had its political behavior just like any other firm with a large number of employees.

## **VI. PROBLEM/ISSUES/CONCERNS**

### ***A. Areas of Consideration***

- The management of Belle Plant was tempted to resort back to the command-and-control management style because of the risk of unpredicted outcomes and apparent lack of control.
- The senior executives of DuPont find Dick Knowles' style an "alien way of management" even if the business is doing well in terms of figures.
- Claire, the special partner of Dick Knowles, had a very great influence over Dick's decision-making and was a tremendous support.

### ***B. Statement of the Problem***

How should the management establish an efficient and motivating work environment in Belle Plant at the same time not losing control over the decisions made by the employees?

### ***C. Objectives***

- To maintain and improve the effectiveness and efficiency of the work force in Belle Plant
- To implement a management style that would enhance the positive behavior of the employees without compromising company business strategies
- To formulate action programs based on the chosen leadership approach
- To create control mechanisms that would keep things in control and in focus
- To encourage the DuPont management to uphold its corporate social responsibility by open communication lines with the community

## VII. RELEVANT THEORETICAL FRAMEWORKS AND THEORIES

The theoretical frameworks and theories incorporated in this section are the ones which this case study group thinks are the key concepts based on the members' understanding of the case. Each concept should imply possible answers to the issues and/or problems stated above.

### A. Motivation and Leadership Styles

Motivation is a process that accounts for an individual's intensity, direction, and persistence of effort toward attaining a goal.<sup>1</sup> The level of motivation is influenced by a specific leadership style. However, a person's motivation is influenced by changing his aspirations and/or leadership style he works under or socializes with.

Below is a representation of the relationship of leadership style and motivation, as presented by Robert Webb.<sup>2</sup>

**Table 1. Leadership Style versus Motivation**

LEADERSHIP STYLE VS MOTIVATION				
<i>Leadership Style</i>	<i>Motivation Type</i>	<i>Basis of Motivation</i>	<i>Personality Type</i>	<i>Efficiency</i>
Limited supervision	Self motivated		Leader of ideas or people	
Worker with decision making responsibility	Team motivated	Creativity	Independent Achiever Thives on change	High
Mixed styles	Goal motivated	Opportunity	Personality type and efficiency	
	Reward motivated	Materialism	depend on the leader's skill / the work	
	Recognition motivated	Social Status	environment he's created	
High level of supervision	Peer motivated	To be like others	Status quo	
	Authority motivated	Follows policy	Dependency	Low
Command-and-Control	Threat, fear motivated	Reacts to force	Resist change	

Employees who are given a certain level of liberty by the management are both self-motivated and team motivated. Self-motivated employees do not accept authority controlled environments. They find a way to escape, if trapped in such condition.

<sup>1</sup> S. Robbins, Essentials of Organization Behavior, Ch 5

<sup>2</sup> [www.en.wikipedia.org/motivation\\_and\\_leadership\\_styles](http://www.en.wikipedia.org/motivation_and_leadership_styles)

Creativity serves as the driving factor of the employee that leads to a high degree of efficiency.

Command-and-control leadership is the common style being utilized in most firms because efficiency is created by repetitive action, and teaching people to resist change. Employees who are restricted under a command-and-control style of management are compelled to work because of peers, authority, threat and fear. They follow the norm because it is policy, out of fear. Hence, efficiency level is low.

On the other hand, the combination of both leadership styles—adequate mix of liberty and management supervision—helps the employees be motivated by goal, reward, and recognition. Efficiency is dependent on the leader’s skill or the work environment he has created.

According to Sirota, et. al. in 2006, the great majority of employees are quite enthusiastic when they start a new job. But in 85 percent of companies, employee’s morale sharply declines after their first six months—and continues to deteriorate for years afterward. Based on the surveys conducted by Sirota Survey Intelligence (Purchase, New York) from 2001 through 2004, to be able to maintain the enthusiasm employees bring to their jobs initially, management must understand the three sets of goals that the great majority of workers seek from their work: Equity, Achievement, and Camaraderie.<sup>1</sup>

Three key goals of people at work:

- (1) Equity – to be respected and to be treated fairly in areas such as pay, benefits, and job security
- (2) Achievement – to be proud of one’s job, accomplishments, and employer
- (3) Camaraderie – to have good, productive relationships with fellow employees

Furthermore, the management in fact should cease de-motivating employees, rather start motivating them. According to the authors, many companies treat employees as disposable. The management inadvertently makes it difficult for employees to do their jobs because of bureaucracy and/or red tape, surfeit paper works, etc.

## **B. Organizational Culture**

Organization culture refers to a system of shared meaning held by members that distinguishes the organization from other organizations. According to research, seven primary characteristics constitute an organization’s culture. These are the following:<sup>2</sup>

1. Innovation and risk taking

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<sup>1</sup> D. Sirota, L. Mischkind, and M. Meltzer, “Why Your Employees Are Losing Motivation,” Working Knowledge For Business Leaders, Harvard Business School, April 2006

<sup>2</sup> C.A. O’ Reilly III, J. Chatman, and D.F Caldwell, “People and Organizational Culture: A Profile Comparison Approach to Assessing Person-Organization Fit,” *Academy of Management Journal*, September 1991

- The degree to which employees are encouraged to be innovative and take risks
- 2. Attention to detail
  - The degree to which employees are expected to manifest precision, analysis and attention to details.
- 3. Outcome Orientation
  - The extent to which management focuses on results rather than in techniques and processes
- 4. People Orientation
  - The degree to which management decisions take into consideration the effect of outcomes on people within the organization.
- 5. Team Orientation
  - The degree to which work activities are organized around teams rather than individuals
- 6. Aggressiveness
  - the degree to which people are aggressive and competitive rather than easy going.
- 7. Stability
  - The degree to which people are aggressive and competitive rather than easy going.

### **Culture Functions**

The following are the functions that culture plays in an organization:<sup>1</sup>

- Culture has a boundary – defining role, creating distinctions between one organization and others
- Culture conveys a sense of identity for organization members
- Culture facilitates the generation of commitment to something larger than one's individual self interest
- Culture enhances the stability of social system. It is the social glue that helps hold the organization together by providing appropriate standards for what employees say and do.

### **Creating and Sustaining Culture**

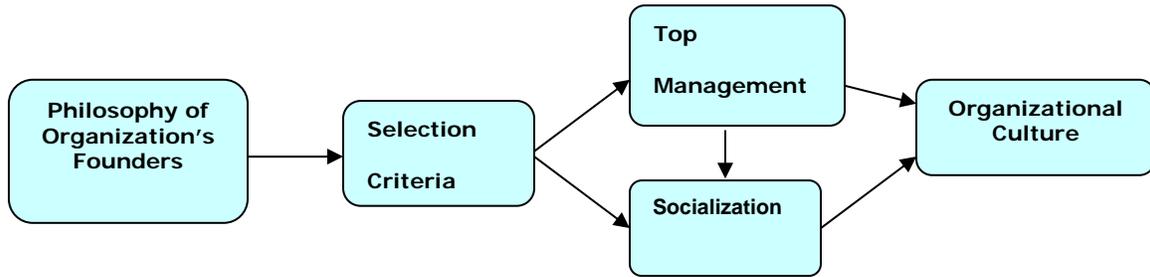
Given that culture has its roots do not just fade away one has to understand how it evolves. Obviously, it all starts with the ultimate source: its founders, being the ones with the vision to create major influence on the organizations' early culture. Once a culture is set in place, practices are sustained through selection practices, actions of top management and socialization methods.<sup>2</sup> Top management influences organization's culture by establishing norms that govern the organization. Socialization refers to adaptation of employees to new culture

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<sup>1</sup> S. Robbins, Essentials of Organization Behavior, p. 250

<sup>2</sup> Ibid, pp.253-257

The following illustrates the summary of how cultures form:



### Managing Cultural Change

Considering that most characteristics of an organization's culture are stable and have been developed over many years, changing it is quite difficult but not impossible. In order to achieve an effective cultural change, studies have shown that some conditions need to exist, including the following:<sup>1</sup>

1. A dramatic crisis exists or is created
2. Turn-over in leadership
3. Young and small organization
4. Weak culture

### C. Organizational Change

"Change or die!"

Change in an organization is not a surprising phenomenon. It is inevitable. Managers do not just dictate what to do, but they themselves do the steps to live change. In a constantly changing environment, an organization which aims sustainable growth, such as DuPont, has to be dynamic. Since the workforce is diversified in regard to age labor, culture differences, and employee competency, an organization must adjust to its multicultural environment.

According to Robbins and Judge, the ones responsible for managing change activities are the *change agents*. Change agents are not exclusively managers, but non-managers, current employees, newly hired, and outside consultants as well.

The authors present two views of change, to quote:

**"The Calm Waters Simile:** *The organization is like a large ship traveling across the calm Mediterranean Sea to a specific port. The ship's captain has made this exact trip hundreds of times before with the same crew. Every once in a while, however, a storm will appear and the crew has to respond. The captain will make the appropriate adjustment—that is, implement changes—and, having maneuvered through the storm, will return to calm waters...*"

<sup>1</sup> R.H. Kilman, M.J. Saxton, and R. Serpa, *Gaining Control of the Corporate Culture*, San Francisco: Jossey Bass 198)

***“The White Water Rapids Simile:*** *The organization is more akin to a 40-foot raft than to a large ship. Rather than sailing a calm sea, this raft must traverse a raging river made up of an uninterrupted flow of permanent white-water rapids. To make things worse, the raft is handled by ten people who have never worked together, and none of them have traveled the river before. Much of the trip is in the dark, the river is dotted by unexpected turns and obstacles, and the exact destination is unclear. At irregular intervals the raft is hauled ashore, where new crew members are added and others leave...”*

The Calm Waters simile is need-based. Meaning, a manager implements change when the situation calls for it. On the other hand, the White Water Rapids simile is “tailor-fit” to an uncertain and dynamic environment. Meaning, change is constant—at the edge of chaos. The manager is placed in a zone unfamiliar to him; he adjusts and implements rules in constant progress.

DuPont, as a science company, is in a constantly changing industry. As Dick Knowles managed Belle Plant, there were several social and environmental issues that his team had to battle. There was little predictability and certainty in regard to potential consequences in the workplace. All they had to ensure the execution of safety, health, and social precautionary measures. The outcomes are uncertain.

### ***Complexity Theory***

Complexity theory, as used in strategic management, exists to understand how organizations adapt to their environments. The theory treats organizations as collections of strategies and structures. According to Lewin and Regine, since processes in the organization unfold in complex systems in unpredictable ways, leading organizational change cannot come about by simply adhering to a conventional command and control approach, which is essentially linear. To accept nonlinear outcomes, uncontrollable processes, and uncertainty demanded nothing less than a personal transformation of the leader. Transformation can be articulated in terms of an organic approach to the organization and as a different way of being a leader. Linear work processes tend to encourage competition and egotism. Such mode of working inhibits employees from having a sense of teamwork. Management that is driven by the principles of complexity science, however, leads to a work process that focuses on networks of relationships and sharing ideas. These relationships can produce a more adaptive organization that is better prepared for change.

Further, Lewin and Regine label an “organic approach” towards work relationship within the workplace. They say that although all the organizations underwent unique processes defined by their respective environments, histories, and their objectives, they all shared similar underlying patterns in how their leaders facilitated change. The first thing these leaders had to learn was that managing an organization as a complex system meant letting go of control.

### ***Chaos Theory***

Chaos theory, as discovered by Edward Lorenz in 1961, states that small changes in initial conditions produced large changes in the long-term outcome. Lorenz' interest in chaos came about accidentally through his work on weather prediction. He was using a numerical computer model to rerun a weather prediction, when, as a shortcut on a number in the sequence, he entered the decimal 0.506 instead of entering the full 0.506127, the computer would hold. The result was a completely different weather scenario.<sup>1</sup> This work lay dormant in the literature until it was discovered 10 years later and popularized by scientists developing chaos theory.

Further, the chaos theory is related to, and the basis of the "butterfly effect" concept. The idea is that, a butterfly's wings might create tiny changes in the atmosphere that may ultimately alter the path of a tornado or delay, accelerate or even prevent the occurrence of a tornado in a certain location. The flapping wing represents a small change in the initial condition of the system, which causes a chain of events leading to large-scale alterations of events. Accordingly, had the butterfly not flapped its wings, the trajectory of the system might have been vastly different. While the butterfly does not cause the tornado, the flap of its wings is an essential part of the initial conditions resulting in a tornado.<sup>2</sup>

Dick Knowles' change in leadership style—from command-and-control to a "human style"—brought a lot of positive results in Belle Plant. In this case, Dick himself underwent a transformation in his personal life and his style of management. "He came to see that the way (you) get the best out of people is not to bully (them) but to reach out (to them) as human beings, to let them see *you* as a human being." He developed a management style that is grounded in the complex theory; that is, touching on people's value, relationships, hierarchy obliteration, and accessibility of information to every employee at Belle Plant.

However, the liberating change put the organization near the edge of chaos. Because everyone in the workplace is experimenting at their own competency and authority, Dick had to ensure there was still order at the end of the day. Small experiments might just lead to big, unexpected outcomes.

### ***Self-organization***

Self-organization is a process of attraction and repulsion in which the internal organization of a system, normally an open system, increases in complexity without being guided or managed by an outside source. In an organization, the system changes are made through reinvention, modification, and recalculation its structure to for a transformation that leads to survival, growth, and development. Therefore, rather than imposing a constant planned step-by-step method to the employees, they are allowed to "self-organize" by making necessary adjustments, and re-evaluations.<sup>3</sup>

In relation to the DuPont case, Dick Knowles, as the plant manager, allowed his employees to move around their space, make decisions, and practically experiment.

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<sup>1</sup> [http://wikipedia.org/chaos\\_theory\\_in\\_organizational\\_development](http://wikipedia.org/chaos_theory_in_organizational_development)

<sup>2</sup> [http://wikipedia.org/butterfly\\_effect](http://wikipedia.org/butterfly_effect)

<sup>3</sup> [http://wikipedia.org/chaos\\_theory\\_in\\_organizational\\_development-selforganization](http://wikipedia.org/chaos_theory_in_organizational_development-selforganization)

Creativity within Belle Plant was encouraged and became the key of motivation for the employees.

In social theory, the elements of a social system, according to Niklas Luhmann, are self-producing communications, i.e. a communication produces further communications and hence a social system can reproduce itself as there is dynamic communication. For Luhmann, human beings are sensors in the environment of the system.<sup>1</sup>

### ***Organizational Development***

According to Robbins and Judge, the Organizational Development (OD) paradigm values human and organizational growth, collaborative and participative processes, and a spirit of inquiry.

The primary goal of OD is to initiate, facilitate, and support successful change in the organization. Incorporating the chaos theory to promote organizational change may be considered risky for the stakeholders because the concept of uncertainty—on which chaos theory relies—may not be an appealing motive for change. Through careful planning and management of “chaos” or disorder, a successful participation may be possible. Allowing or actively forcing an organization to enter a chaotic state translates to the inevitability of change (and the “butterfly effect”). The way to enjoy the benefits of chaos theory in OD while maintaining a sense of security is to adjust the organization towards a state of existence which lies “on the edge of chaos”.<sup>2</sup>

According to Levy, by existing on the edge of chaos, organizations are forced to find new, creative ways to compete and stay ahead. However, there are organizations which, due to extended periods of equilibrium, find themselves struggling for survival. They need to embrace the element of chaos due to crisis, and allow creative adaptability to function freely so that self-organization and re-invention can occur.

Organizations existing on the edge of chaos are known to be the most creative and adaptive organizations. Members of such organizations will only stay loyal to and identify with the constantly changing shape if the organization does not change its core essence, and its identifiable, shared purpose. Its members will still experience the organization as a developing system that changes shape but retains the same familiar face.<sup>3</sup>

According to Shelton, the safest way to use chaos theory in OD is not in the instigation of organizational change, but in the use of its principles in dealing with issues that arise within the organization. By embracing organizational phenomena previously seen as dysfunctional, such as interpersonal conflict, and using it as a source for transformational change by applying principles found in chaos theory, an organization can make “lemonade out of lemons” and become more responsive to change agents while continuously moving ahead and growing from the inside out without the fear of complete chaos.

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<sup>1</sup> [http://wikipedia.org/chaos\\_theory\\_in\\_organizational\\_development\\_application](http://wikipedia.org/chaos_theory_in_organizational_development_application)

<sup>2</sup> [http://wikipedia.org/chaos\\_theory\\_in\\_organizational\\_development\\_application](http://wikipedia.org/chaos_theory_in_organizational_development_application)

<sup>3</sup> Levy, D. (1994). “Chaos Theory and Strategy: Theory, Application, and Managerial Implications.” *Strategic Management Journal*. (Vol. 15, pp. 167-178).

### **Creating a Learning Organization**

In an attempt to understand organizations in constant flux, various theories have developed interest in the concept of a “learning organization”.

A learning organization is an organization that has developed the continuous capacity to adapt and change, just like an individual learns so. Though it is inevitable that all organizations learn, considering that this is what their existence requires them to do so,<sup>1</sup> some organizations are better when it comes to learning than others.

Organizations engage themselves in two kinds of learning. One is single loop learning wherein correction process relies on past routines and present policies. The other one is double-loop learning, wherein correction is based on involving modifications of the organization's objectives, policies and standard routines when errors are identified. The former type of learning is the one that is most commonly used while the latter is found to be challenging for organizations considering that deeply rooted assumptions and norms of an organization are tested, leading to extreme solutions to different problems and significant improvement initiatives.

The following characterize the learning organization:

1. There exists a shared vision which everyone sees.
2. People discard their old ways of thinking and the standard routines they use for solving their problems and doing their jobs.
3. Members think of all organizations practices, activities, functions and interactions with the environment as part of a system of interrelationships.
4. People openly communicate with each other (across vertical and horizontal boundaries) without fear of criticism or punishment
5. People sublimate their personal self-interests and fragmented departmental interests to work together to achieve the organization's shared vision.<sup>2</sup>

### **Managing Learning**

In order to change an organization for it to be a continual learner, managers should perform the following:<sup>3</sup>

- Establish a strategy
  - Inducing a commitment to change, innovation and continuous improvement
- Redesign the organization's structure
  - Flattening structure can increase interdependence and reduce interpersonal boundaries.
- Reshaping the organization's culture

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<sup>1</sup> D.H. Kim, “The Link between Individual and Organizational Learning,” Sloan Management Review, Fall 1993, p. 37

<sup>2</sup> B. Dumaine, “Mr. Learning Organization,” Fortune October 17, 1994, p/ 148`

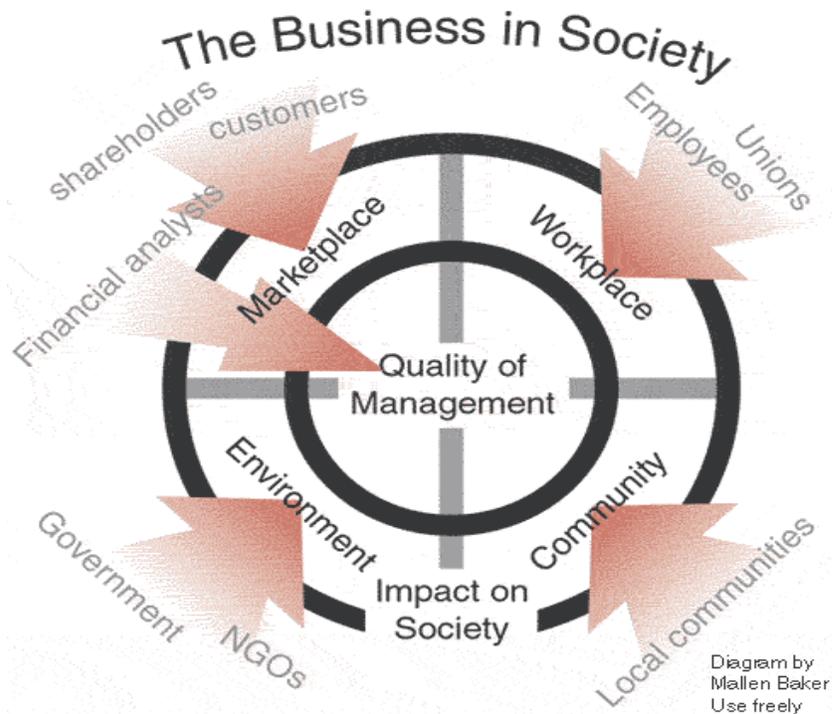
<sup>3</sup> S. Robbins, Essentials of Organization Behavior, p. 278

- Since learning organizations are characterized by risk taking, openness and growth, management shall manifest by their taking actions that taking risks and admitting failures are desirable traits.

#### D. Corporate Social Responsibility (CSR)

What exactly is CSR? The World Business Council for Sustainable Development in its publication *"Making Good Business Sense"* by Lord Holme and Richard Watts, used the following definition: *"Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large"*.

Mallen Baker outlined the role of businesses in his illustration:



Companies need to answer to two aspects of their operations.

1. The quality of their management - both in terms of people and processes (the inner circle).
2. The nature of and quantity of their impact on society in the various areas.

Outside stakeholders are taking an increasing interest in the activity of the company. Most look to the outer circle - what the company has actually done, good or bad, in terms of its products and services, in terms of its impact on the environment and on local communities, or in how it treats and develops its workforce. Out of the various stakeholders, it is financial analysts who are predominantly focused - as well as past

financial performance - on quality of management as an indicator of likely future performance.

Locally, we define CSR here in our country as "Business giving back to Society". Some SME's and big companies provide livelihood to the immediate or host communities there plant or office is located. Traditionally, big corporations establish foundations and offices. They not only target their host communities but also other stakeholders such as employees, customers (through safe and reasonably priced products), suppliers, and investors, among others. The SME's in the meantime are more community-cantered and leaning to community development like their own neighbourhood, barangay, or parish.

### **VIII. ALTERNATIVE COURSES OF ACTION**

The group has conceptualized the following alternative courses of action in order to address the question of finding the most effective and efficient approach to managing and leading:

ACA NO. 1 : *Adopt an improved command-and-control management style with a better reward system*

ACA NO. 2: *Adopt the Human Management Style (advocated complexity and chaos theory)*

ACA NO. 3: *Adopt Self-Organizing Leadership Style with the "Bowl" (See Richard N. Knowles, 2002. The Leadership Dance, Pathways to Extraordinary Organizational Effectiveness. Niagara Falls, NY. The Center for Self-Organizing Leadership. pp.99-100.*

**ACA NO. 1 : *Adopt an improved command-and-control management style with a better reward system***

In this option, the group considers the importance and the safety of using standards, procedures, and control mechanisms to regulate an organization like the Du Pont Belle plant. In order to gain a more positive work environment and at the same time achieve better results though, the group explores the option of establishing a better performance and rewards management system that will motivate employees to work better. Here, the reward systems (e.g. monetary incentives like bonus, merit increase, promotion, perks) are tied to the strategies and goals of the organization and so the employees will be rewarded based on how effective they were in adhering to the company's policies, standards and values and in meeting the target results set by the management. It is important to note though that in this option, management approach is still top-down wherein the directives and goals still come from upper management.

The following are the advantages and disadvantages of this alternative:

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> <li>• An overall direction for the company is provided through clear chain of command and communication and implementation of goals, objectives and directives.</li> <li>• A sense of control, efficiency and stability are provided through a shared ideological consensus and close monitoring of compliance to goals and targets.</li> <li>• Motivation from employees can be achieved through an improved</li> </ul>	<ul style="list-style-type: none"> <li>• Motivation is extrinsic and may not be sustainable in the long run.</li> <li>• Because of the one way communication and commanding relationship between manager and employee, there will be less information flow.</li> <li>• Due to limited information flow, it tends to be static and inflexible as it lessens chances of creating a change process that will lead to success and thus reduce creativity in the organization.</li> <li>• Structure would still be hierarchical and employees are</li> </ul>

<p>reward and incentive system in accordance with what have been established.</p>	<p>less empowered; that can eventually lead to low morale due to lack of accountability in decision making.</p> <ul style="list-style-type: none"> <li>• It limits the participation and commitment of employees and often actually promotes resistance.</li> <li>• It minimizes attention to necessary people issues like consistent communications and emotional reactions to change.</li> <li>• It keeps people from being able to make the real-time course corrections during implementation that are necessary for optimal results.</li> </ul>
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**ACA NO. 2: *Adopt the Human Management Style (advocated complexity and chaos theory)***

This course of action suggests the continuation of the management style that Dick Knowles has discovered from complexity and chaos theory and that he has utilized in his attempt to develop the work environment at Belle Plant.

Primarily, this leadership style gives people ownership of methods, tools, and results and in which people feel good about informally creating networks and collaborating within teams to work on tasks and decisions. In this alternative, nonetheless, employees may have the tendency to have excess freedom to the extent that control over results of decisions might be lost.

The following are the benefits and downsides of such a choice:

<b>ADVANTAGES</b>	<b>DISADVANTAGES</b>
<ul style="list-style-type: none"> <li>• Employee morale is increased as valuing for people and relationships are promoted, which can consequently benefit the company's image.</li> <li>• Workers are empowered through increased decision-making responsibilities and accountabilities.</li> <li>• Hierarchy is lessened allowing for more participation and easier communication among employees and management.</li> <li>• Better and richer communication</li> </ul>	<ul style="list-style-type: none"> <li>• Acknowledgment of unpredictability of outcomes and events can imply that long term planning is not relevant.</li> <li>• Loose boundaries can descend an organization to anarchy and failure to deliver core tasks.</li> <li>• There is lack of sense of control and focus.</li> </ul>

<p>flow as brought about by participative management brings about opportunities for learning, creativity and improvement that can give a company an edge over competitors.</p> <ul style="list-style-type: none"> <li>• Flexibility and creativity are promoted through provisions for continuous learning and encouragement for innovation.</li> </ul>	
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**ACA NO. 3:**

**Adopt Self-Organizing Leadership Style with the “Bowl”**

This last option that the group has identified is the leadership style that Dick Knowles developed and used during his stint at Belle Plant. Essentially, this option addresses the need for coexistence of the “bowl” which provides order and consists of the mission, vision, expectations, principles, and standards of behavior and performance of an organization and within the ‘bowl’ the freedom element in the organization as manifested by the tendency of employees to informally create networks or “self-organize”—synergy that employees need to do experiment and create improvements. According to Knowles, in this approach, the leader creates the conditions that provide opportunities for people to grow and release energy to increase an organization’s effectiveness. There is a focus on achieving strong, sustainable business results. The people feel better and the business gets significantly better as well.

<b>ADVANTAGES</b>	<b>DISADVANTAGES</b>
<ul style="list-style-type: none"> <li>• The Bowl concept gives consideration to both control and innovation or creativity.</li> <li>• Opportunity for group learning is maintained.</li> <li>• Employees can work with higher level of freedom to accomplish tasks.</li> <li>• Resistance to change is minimized.</li> </ul>	<ul style="list-style-type: none"> <li>• DuPont executive management finds giving employees liberty an “alien way” of running business</li> <li>• Manager successor in the plant needs to study on the concept of complexity and chaos theory well to be able to execute the mixed management style appropriately</li> <li>• Time is of essence for the culture to completely embrace this style of management</li> </ul>

### **IX. BEST ALTERNATIVE CHOSEN**

Based on the three alternative courses of action, the group thinks that the third option is the best alternative course of action considering that it gives employees both freedom and order at the same time. The order and control are needed for the organization or a company to survive in its day-to-day operational requirements, achieve organization's established objectives and deliver cost effective performance.

On the other hand, the freedom component of the management style addresses the requirement for the organization itself to transform itself in situations that are largely affected by some major changes. Thus, in the dynamic and critical business environment that DuPont Belle plant is engaged in, management of the DuPont Belle plant should take into consideration both factors in determining which management approach is most appropriate.

## **X. ACTION STEPS**

The following are the proposed action steps to achieve the creative, liberating, and motivating atmosphere in Belle Plant, without compromising DuPont's business strategies. The successor of Dick Knowles may implement the following:

### **1. Setting clear, definite, and doable goals: "The Bowl"**

- It is inevitable that the management sets the mission, vision, standards of behavior and performance, guidelines, expectations, and policies of the organization clear to the employees.
- The "bowl" acts as the borderline where the employees are limited not to go beyond. Although employees are allowed to be creative at their pace of competency, there should also exist a perimeter or a boundary to reduce potential unpredicted outcomes.

### **2. Invest in reward system**

- The aim of this exercise is to make employees feel that they are valued in the company, hence their performance and behavior towards work matter a lot for the growth of the organization; to create a sense of pride within each employee
- Instill to employees why they exist in the company through quarterly seminars of superiors and subordinates
- Recognize the simple acts of kindness or little contributions that employees render—this can be done both verbally and public announcement (within the organization). Managers must show appreciation for good work. "Pat-on-the-back" gestures must be promoted as sign of recognition.
- Conduct coaching sessions with employees on a monthly basis. Managers must give employees feedback regarding their performance—positive and negative. Annual appraisals are not the same as performance feedback. Follow up and reinforce what has been discussed with the employee to ensure improvement.

**3. Promote teamwork**

- Hold annual teambuilding activities within units, inter-units, and across the organization to strengthen camaraderie among workers
- Create teams for opportunity of amalgam-learning, and diversity of ideas, and approaches
- Emphasize concrete output expectations out of team effort exercises

**4. Communicate financial and tenure security**

- Apart from verbally informing individual employees about their cash benefits, the general terms of these pieces information should be told publicly to the employees (within the company)
- Be open about the potential promotion of an employee
- Conduct surveys to employees and know their current condition, concerns, and status as workers; ask questions informally

**XIII. CONCLUSION & RECOMMENDATION**

The business environment is a state where change is constant. This compels organizations to adapt to and embrace change to achieve sustainable growth. DuPont, involved in an evidently dynamic setting, primarily exists to bring forth change to the science and technology industry. Hence, its presence creates a significant impact to the community and environment. Likewise, it is critical for DuPont, as an organization, to commence change from within. In the instance of the Belle Plant, the leadership style implemented internally, yielded an image to the community in the vicinity of West Virginia. Thus, a transformation in the organizational culture cedes an essential change for an organization as a whole.

The theories and conceptual frameworks learned from this study aided the group to understand DuPont Belle considerably. As Dick Knowles would impart, it is essential for managers to be knowledgeable about the complexity and chaos concepts of organizations—because such exist. Since organizational behaviour is indeed intricate, therefore, careful understanding and comprehension must be dedicated to achieve the goal of organizational development. It also goes without saying that for a business to be successful and sound, it has to achieve gains in its triple bottom line: finances, environment, and human resource.

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**XV. APPENDIX**

*Interview with Mr. Richard Knowles via email*

March 7, 2009

1. What was the difference between the personnel attitudes in Niagara and Belle?  
Initially, the levels of trust between the manager and the people at all levels were low. It took several years of extensive, personal interactions to break through this with most of the people. The previous labor relations history at each plant was difficult with Niagara having had a strike in the early 1970's and Belle being in the middle of the WV coal fields where there has been over 100 years of strife.  
  
I spent a lot of time walking around the plants, looking, listening talking and just observing. At Belle, I kept track of the time I spent with those who did not report directly to me for a 5 year period, day-by-day; I averaged 5 hours a day in this aspect of the work.
2. Did I have more freedom and latitude in decisions in Niagara or Belle?  
I had a lot of freedom in each plant. At that time DuPont vested a lot of authority in the plant manager position. For example, I could hire and fire; I had \$50,000 capital authorization authority and \$250,000 purchase order authority. I took the initiative in just about all the work and occasionally checked with my Production Director as needed. As long as I achieved the results they were looking for, I had

a lot of freedom. I was held totally responsible and accountable for what happened at each place and could be kicked out of the positions if I messed up.

3. When I went to Belle, did you have a basic idea of how things were there and did I have a plan of action?

Belle had a bad reputation within DuPont. They had the poorest safety performance among about 150 plants and their attitude towards their corporate partners and customers was indifferent. I came in as an outsider to both the plant and the operating department in which they reported. No one knew me. I knew that I had to establish trust as quickly as I could and meet as many of the people as I could. My direct staff resented me being there. Within the first 4 weeks I had met just about all 1300 people and heard a lot of bitter complaining.

Safety is a DuPont core value so I started there and drove it very hard. In the first few years I had to terminate 15-20 people a year, including a few in supervision. Our performance immediately began to improve. A lot of what I did was intuitive and I spent a lot of time deeply reflecting on and praying about the work I was doing. I realized we had to change the top-down, harsh culture to one where the people are helping to make things happen. There was little corporate guidance in this. It was wonderful when I met Meg Wheatley and began to learn how to lead more effectively.

4. How had was this in both the professional and personal aspects of my life?

It required a total commitment. I had huge support from my wife during this work for she knew what I was trying to do and was with me all the way. During this time we had a commuter marriage for 8 years with Claire living in Niagara and me in WV. We travelled each week end. She came to Belle several times a month and did safety audits with me on the weekends. People liked her much better than me. They came to see us as real people who deeply cared about them, their families and the long-term economic survival of the plant and their jobs. I normally worked 12-13 hours a day. I was on call 24/7 for all these years.

5. The treatment of people principles were ingenious. Were they used at other DuPont plants?

The DuPont Plant in El Paso, Ind. Developed similar principles and we built upon them. No other plants use them as far as I know. When we on the staff developed them we took them out to the people saying that these were the principles by which we wanted to lead and would they help to hold us accountable to them. At first they laughed at us, and then when they saw that we were serious, they beat us over the head when we messed up and during this process they came into the

whole thing. When Meg Wheatley came for a visit 9 months later, she was amazed at how well they were established. We measured our performance each week against how we were doing with them using them in situations like a termination review.

6. What was the organization chart like when you came to Belle and what did it look like when you left?

It was pretty standard looking. We had 6 levels of supervision. However, the chart was not very useful in running the plant, and I kept losing it which irritated my boss. As we moved through our transformation we more and more organized ourselves around the core production process and those of us who were not touching product in some way saw ourselves as overhead and needed to be in support of the process. We found that the plant ran better on the off-shifts when we in supervision were not there. The plant ran 24/7. We found that fixing a pump seal at noon required 38 interactions among the people while at night it took only 18. We learned to run days like nights which really improved us. I never figured out how to show all this on an organization chart that made sense to anyone but me.

7. When you shifted from “heavy-handed” management to a more people-oriented management style, how were you able to discover the principle of complexity theory? How important is this concept for managers to be aware about in relation to handling people?

I happened to see Glick’s Chaos on video. I was fascinated and thought that these ideas must also apply to living systems. I then discovered the Chaos Network and called the director, Mark Michaels who invited me to the Second Annual Chaos conference. There I met Margaret Wheatley, read her book, Leadership and the New Science, and began to go to her Berkana Dialogues where I learned a lot along with the others as we explored these ideas of chaos and organizations.

I think that these ideas are vital for managers to grasp if they really want to become more effective.

8. There were times in the past that you struggled with a chaotic but creative way of doing things, and you were nearly tempted to go back to the old command-and-control management style to put things in perspective. However, instead of falling to that pit, you took the “road less-travelled” and perceived an image of a bowl. As a leader or manager, how did you make your vision, or guidelines to the team as concrete as possible to keep the members within the bowl? Did you also have to communicate to the team what you were struggling with? How did you keep your members grounded in terms of their respective degree of decision-making?

In Meg's dialogues I became aware of the concept of strange attractors. The Bowl is a strange attractor. The Bowl is the vision, mission, standards of behavior, standards of performance (e.g. safety) and expectations. As I walked the plant I constantly talked about these things with everyone. Much of this was co-created by us working together. As long as people worked within the Bowl we were okay.

9. Your experience at Belle exemplified the concept of the chaos theory. In organizational development, how do you think can a firm utilize this model? Isn't it risky for the shareholders if the organization uses the said model solely?

The first steps are to share information, build relationships and help people to see how they fit into the larger picture. In my book, *The Leadership Dance* I talk about the need for managers to pay attention and to use the appropriate leadership process, hence *The Dance*. Most of the time people need to be in the self-organizing leadership process, but now and then people need to use the operational leadership process.

10. Can I say that DuPont or Belle were CSR (I assume you mean Corporate Social Responsibility) averse then?

The Company tried to do the right thing in their plant communities and were seen as leaders in most places. In both Niagara and Belle I pushed this pretty hard since we needed to develop better relationships with our communities. In Niagara, I had Love Canal only 3 miles away and we were struggling with our own plant emissions which the neighbors did not like.

In Belle, the whole chemical community (13 plants of 8 different companies) was challenged because of methylisocyanate and the Carbide Aldecarbe release. In both communities, I spent a lot of time with the neighbors in one way or another. In 1994 I helped to lead Safety Street in which all the plants told the community of 300,000 people 29 ways we could kill them and trust went up. It took 2 ½ years of pioneering work and was very hard.

11. You left DuPont after eight years of commendable service as plant manager. What made you feel that it was time to go? Is there a principal reason, or were you triggered by some incident that made your decision firm? If you don't mind, would you share your reason/s?

I left Belle to become the Community Awareness and Emergency Response Director at the Corporate level. After 2 years the focus of the Company shifted and I elected to retire at 60 to begin my consulting career which I've been doing successfully for 13 years and still going.

12. Looking back, would you do all this over again?

YES!!!!!!!!!!!!!! But I would be able to do it even better now with all that I learned along the way. This way of leading is the only sustainable way of leading I know of. The processes we put into place have endured. For example the plant became the 3rd best safety performer in the company while I was there. They sustained this and improved to becoming the best for several years. They are better now in safety than when I was there.

13. Did the subsequent managers take the same approach as I did and did they seek any advice from me?

Since I left in 1995 there have been 4 different managers. Each brings in his/her own approach. However the people were able to sustain the great work we began and the performance has remained high. None of them tried to destroy what we'd done which can happen.

14. Do I have any advice for managers having the same dilemma?

Yes. The basic leadership processes are defined in my book. They begin with building relationships, sharing information and helping people find meaning in their work. This is the Self-Organizing Leadership Process. Go out, listen to the people, share the critical issues you are facing and ask for their help. Build the Bowl of the vision, mission, principles, standards and expectation which provides the control and then the people can work within the Bowl to do extraordinary work. Be authentic!

I hope these help with the project.

Please send me the copy of the Belle Case Study so I can use it in my own MBA classes at Medaille College.

Richard N. Knowles, Ph.D.