



### WHAT IS IT?

Force field analysis is a problem-solving tool used to help change occur. It was first used during World War II by Kurt Lewin, a professor at the University of Iowa. Lewin invented the tool when conducting research on the meat buying preferences of housewives. He found that women preferred to buy only certain kinds of meat, such as steaks, roasts, and hamburger, and not other kinds, such as liver and tongue. The U.S. government sponsored Lewin's research in the hope that he would come to an understanding of why the women would not buy certain types of meat and how he could influence them to buy meats which did not require ration stamps. Force field analysis then, came out of Lewin's attempts to change the meat buying habits of American housewives.

Force field analysis, as used by Lewin, views change as a struggle between forces. Driving forces are those existing forces that help the change occur. Restraining forces are those existing forces that are blocking the change. Force field analysis is the exercise of identifying the driving and restraining forces that surround a proposed change. Working through this process of identifying forces encourages creative thinking by forcing an improvement team to think together about the aspects of the desired change. The exercise also encourages the team to agree on the priority of the forces. This agreement provides a starting point for action.

Lewin identified three possible change strategies using force field analysis: a team can choose to increase the driving forces, decrease the restraining forces, or do both. Increasing the driving forces can have the unexpected result of reinforcing the restraining forces. Lewin suggests that the best way to help the change occur is to decrease the restraining forces. Often, when taking action to decrease a restraining force, the restraining force becomes a driving force.

Force field analysis is used by improvement teams when trying out their improvement theories. It is often used just after the team has generated improvement theories using nominal group technique. It is a powerful tool and can be used to help any change occur.

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## WHAT DOES IT LOOK LIKE?

Shown below is an example of force field analysis. An instructional delivery improvement team had just generated and chosen its improvement theory by NGT. The team made this force field analysis to help understand how to try out their theory. The improvement theory or action which the team wants to implement is a weekly training session for teachers on how to integrate state test objectives into the curriculum. The numbers in parentheses are the final rankings.

<b>Force Field Analysis</b>	
<b>Conduct A Weekly Training Program For Teachers To Learn State Test Objectives Integration</b>	
<b>Driving Forces (+)</b>	<b>Restraining Forces (-)</b>
The superintendent is very supportive	Teachers are reluctant to have data collectors in classroom
Everybody wants to improve instruction	Time to gather data
(3) Will improve state test scores	(2) Heightened stress
(1) Teachers are involved in decision making to impact instruction	Teachers have a set way of delivering lessons
Kids need to know objectives	(1) Limited time to implement change
Teachers meet weekly already	Teaching to the test is not always good teaching
(2) Principal is very supportive	
Teachers understand objectives	
Teachers willing to try	
<b>Actions:</b>	
1. Let teachers know that their input is important, and that this is not a tool to evaluate their performance.	
2. The principal will give a pep talk to teachers.	
3. The trainer will show teachers how to take their regular lesson plans and add state test objectives.	
*The numbers in parentheses are the numbers of votes each force received in being the strongest.	



## WHEN IS IT USED?

Use force field analysis any time a change is expected to be difficult. Many times, system changes are difficult and complex to carry out. A force field analysis would not be needed for a simple task such as changing a light bulb or when widespread support for the change already exists.



## HOW IS IT MADE?

### 1. DEFINE THE DESIRED CHANGE OR ACTION.

Agree on a simple statement to describe the change to be made. An action may have been previously defined using nominal group technique (see the Nominal Group Technique section for explanation of this tool) or some other method. In the example, the desired change is to “conduct a weekly training program for teachers to learn state test objectives integration.”

### 2. BRAINSTORM THE DRIVING FORCES.

Brainstorming is an uninhibited creative process for generating ideas. Read the box on the following page to learn more about brainstorming.

1. most important thing to avoid  
is statements of wishful  
thinking or potential benefit;  
2. instead, put current forces;  
currently existing conditions.

## BRAINSTORMING

**Brainstorming** is the free, uninhibited generation of ideas, usually in a group setting.

### Goals

1. **To generate a wide variety and extensive number of ideas.** This goal is based on the principle that brainstorming is synergistic—that is, it produces a greater total effect than that which can be produced by individual effort.
2. **To insure that everyone on the team becomes involved in the problem-solving process.** All ideas generated by the team are potentially valid and each team member should feel that he or she can contribute.
3. **To insure that nothing is overlooked.** Brainstorming is concerned with including all possible solutions to the problem at hand. If ground rules are followed, individuals engaged in brainstorming will have confidence that every possible problem solution has been introduced and considered.
4. **To create an atmosphere of creativity and openness.** Properly run, a brainstorming session can unleash otherwise constrained minds to areas of creativity.

### Rules

So that the above goals can be reached, the team should follow the rules listed below when participating in a brainstorming session.

1. **No criticism allowed.** There should be no evaluation or criticism of others' ideas during the process. Criticism will only inhibit team members from being open about their ideas.
2. **Each person has equal opportunity to express ideas.** No one person may dominate idea offering. This is accomplished by going around the table in an orderly fashion, giving each person a turn.
3. **Quantity over quality.** As many ideas as possible should be generated. Ideas breed other ideas.
4. **Piggybacking or hitchhiking is encouraged.** These terms mean that team members try to get ideas from the ideas of others. Frequently one member's idea will trigger another slightly different idea.

### How to Run a Brainstorming Session

1. **Select a recorder and group facilitator.** This person records the ideas as they are generated and makes sure the group does not violate any ground rules.
2. **Generate ideas.** Begin idea generation by going around the group in an orderly fashion, allowing one idea per person. A team member with more than one idea should write them down to be given in turn. If team members do not have ideas when it is their turn, they can pass.
3. **Record the ideas.** As the ideas are generated, the recorder records them on flip chart paper or on a cause and effect diagram. It is important that the ideas are displayed so the team can see them. As flip chart pages are filled, they should be taped to the wall. Seven to ten minutes is the recommended time for the brainstorming session.

Driving forces are those which currently exist and tend to support, or drive, the desired change. It is important that these forces are brainstormed first because they are likely to be the most important source of ideas for an implementation plan. In the example, the brainstormed driving forces are:

*the superintendent is very supportive  
everybody wants to improve instruction  
will improve state test scores  
teachers involved in decision making to improve instruction  
kids need to know objectives  
teachers meet weekly already  
principal is very supportive  
teachers understand objectives  
teachers are willing to try*

### 3. BRAINSTORM THE RESTRAINING FORCES.

Restraining forces are forces which currently exist and are most likely to inhibit implementation of the improvement action. Looking at the driving forces can sometimes help generate restraining forces which are sometimes opposites of driving forces. In the example, the brainstormed restraining forces are:

*teachers reluctant to have data collectors in classroom  
time to gather results data  
heightened stress  
teachers have set ways of delivering lessons  
limited time to implement change  
teaching to the test is not always good teaching*

#### 4. PRIORITIZE THE DRIVING FORCES.

Discuss the driving forces and determine their relative importance. Forces can be prioritized by using several different methods: forced ranking, an open discussion, or a vote. It is best to try an open discussion first so that each team member will have an opportunity to voice his or her opinion. In the example, the team was able to come to consensus on what the strongest driving forces were. The strongest driving force was chosen to be “teachers are involved in decision making to improve instruction” followed by “principal is very supportive” and “will improve test scores” respectively. The list is shown below.

*the superintendent is very supportive*  
*teachers meet weekly already*  
*everybody wants to improve instruction*

- (3) *will improve state test scores*
- (1) *teachers are involved in decision making to improve instruction*  
*kids need to know objectives*
- (2) *principal is very supportive*  
*teachers understand objectives*  
*teachers are willing to try*

#### 5. PRIORITIZE THE RESTRAINING FORCES.

Use the same process as in Step Four to prioritize the relative importance of the restraining forces. The strongest restraining forces were also chosen through consensus. They were chosen to be “limited time to implement change” and “heightened stress.” The list is shown below.

*teachers reluctant to have data collectors in classroom*  
*time to gather results data*

- (2) *heightened stress*  
*teachers have set ways of delivering lessons*
- (1) *limited time to implement change*  
*teaching to the test is not always good teaching*

## 6. LIST ACTIONS TO BE TAKEN.

Some changes are easy to test or implement, but many are not. Planning a change requires a set of actions designed to increase the chances that the desired change will occur. The actions are generated by:

- a. discussing how to reduce, eliminate, or reverse the effect of the important restraining forces. This is frequently done by taking advantage of any of the driving forces. But sometimes unique activities must be generated and undertaken to deal with a specific important restraining force;
- b. discussing how the high priority driving forces can be reinforced or used to smooth the path of change.

In the example, the team identified three actions:

1. *Let teachers know that their input is important, and that this is not a tool to evaluate their performance.*
2. *The principal will give a pep talk to the teachers.*
3. *The trainer will show teachers how to take their regular lesson plans and add state test objectives.*

Action one and three work to weaken the stress currently experienced by teachers and action two works to capitalize on the principal's support of the improvement efforts.



### REMEMBER

1. Force field analysis provides the opportunity for a team to view a proposed change from both sides, for and against.
2. Force field analysis provides a starting point for action.
3. A list of required actions is the output of the force field analysis. A detailed plan should be generated to carry out the actions.