Methodological Review

# Ranked Levels of Influence model: Selecting influence techniques to minimize IT resistance

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## ARTICLE INFO

## ABSTRACT

Implementation of electronic health records (EHR), particularly computerized physician/provider order entry systems (CPOE), is often met with resistance. Influence presented at the right time, in the right manner, may minimize resistance or at least limit the risk of complete system failure. Combining established theories on power, influence tactics, and resistance, we developed the Ranked Levels of Influence model. Applying it to documented examples of EHR/CPOE failures at Cedars-Sinai and Kaiser Permanente in Hawaii, we evaluated the influence applied, the resistance encountered, and the resulting risk to the system implementation. Using the Ranked Levels of Influence model as a guideline, we demonstrate that these system failures were associated with the use of hard influence tactics that resulted in higher levels of resistance. We suggest that when influence tactics remain at the soft tactics level, the level of resistance stabilizes or de-escalates and the system can be saved.

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## 1. Introduction

EHR/CPOE systems have great potential to improve quality of care and patient safety [1–3], but this benefit is not always being realized because many EHR/CPOE efforts encounter difficulty or fail [4–6]. Many of these failures and problems are traced back to user resistance [7,8]. Thus information technology leaders are faced with the problem of what to do about resistance.

Many theories and models have been proposed regarding the relationship of power, influence, and resistance, but none have combined these various models into a working tool for minimizing resistance to the introduction of information technology. Because of the strong power struggle between clinicians and implementers of CPOE, healthcare is especially in need of research in this area. The purpose of this model is to provide such a working tool for effectively managing resistance in the implementation of CPOE.

## 2. Background

The word "power" is an emotionally-laden and socially charged word. We criticize those who have it, we feel it's wrong to seek it, yet we always wish we had it. It is often socially unacceptable to explicitly want power, and just as socially unacceptable to not have it.

The important realization is that everyone has power in varying degrees, based on the situation they are in, and the position that they hold in that situation. All individuals hold a level of power in their work environment, some more than others. When that power is threatened by the implementation of information technology (IT) in the workplace, any users will likely resist.

Physicians are generally considered to be among the most powerful users of IT so their resistance is considered a major barrier to overcome when implementing IT [7,8]. They are frequently in opposition to the chief medical information officer (CMIO) whose job is to apply influence on the clinical users to minimize resistance and elicit support for the new IT. This is a difficult task for the CMIO and guidelines that can be used to maximize the effects of influence are needed.

Being able to predict the reaction to certain types of influence offers the person or group doing the influencing an advantage. We combined French and Raven's social power bases [9], Bruins and Kipnis' models of influence [10,11], and Coetsee's levels of resistance as defined by Lapointe and Rivard [12] into a progressive, ranked order, matching influence tactics with the expected resistance. Ranking and matching influence tactics with the types of resistance is a new concept, but the expectation of resistance to influence is not.

In 1938, Kurt Lewin theorized a relationship between power and resistance within groups. His concept suggested that power from persons in superior positions emanated like concentric circles, or "power fields" from the person with power, and encompassed those who fell within the range of those circles [13]. Since all people have their own power, resistance comes from the power of the person "encompassed" who does not wish to be influenced by the more powerful person. The "encompassed" individual emanates his own concentric circles in the opposite direction. Lewin's theory has implications for the relationship between influence and resistance. Later, Lewin proposed that groups held much more power than individuals and could provide greater resistance to a change of the status quo [13]. Forming a coalition is one of the strongest forms of resistance (e.g. labor unions).

Expanding on Lewin's theories, John French and Lester Coch found that standards within worker groups or coalitions were in opposition to management's requests unless the workers moved out of their own power field and into a cooperative arrangement with management – basically they became part of management's power field [14]. Therefore, the goal of an "influencer" (the person doing the influencing) is to move the "target" (person or persons being influenced) into the influencer's power field – incorporating them into the influencer's coalition.

For the first half of the paper, we first review the four theories of power, providing details of power facet classification and their relationships to influence tactics. In the second half of the paper we use these theories to develop our Ranked Levels of Influence model and apply it to two well known cases of IT implementation failure.

### 2.1. French and Raven's six power bases

Even though the terms power and influence are often used interchangeably, they represent different concepts. Power is the "potential" to influence someone, but influence is the "actual use" of that power [15,16]. In their work on interpersonal power and influence, John French and Bertram Raven identified six bases of social power [9,17–19]. These six bases of social power are as follows:

(1) *Legitimate* – power based on one's formal position within an organization, reciprocity, equity for suffering incurred, or dependence on someone else for help.
(2) *Coercive* – power based on the ability to provide rejection, disapproval or physical threats.
(3) *Reward* – power based on the ability to provide acceptance, approval or tangible rewards.
(4) *Expert* – power based on one's knowledge and/or experience.

(5) *Referent* – power based on people's sense of identification or desire for identification with the influencing person, charisma.
(6) *Informational* – power based on the ability to persuade or provide information to allow someone to make a decision.

These six bases of power are the foundation for the power an individual has available to influence another person. Each base of power has related forms of influence that can be used to effect a change in the target person, illustrated in Table 1. This is referred to as the "Power Interaction Model [18]."

Each power base can be expressed with multiple types of influence which can be characterized as: direct vs. indirect, personal vs. impersonal, and positive vs. negative. Because the choice of influence has social implications, it is important to understand how we chose the type of influence to use.

### 2.2. Kipnis' model of influence

A theory of influence that was later named "The Power Act Model" in an article by Bruins [10] was developed in 1976 by Kipnis [11]. The Power Act Model suggests that an individual makes a choice regarding the type of influence to use based on certain features of the situation. These features are (1) the resources (i.e. power) the individual has at their disposal, (2) the individual's inhibition to actually use a power base and (3) the amount of resistance that they expect from the target person if they attempt to influence them [10].

There are eight categories of tactics that can be used in this model. They are assertiveness, ingratiation, rationality, sanctions, exchange, upward appeal, blocking and coalition [11]. Examples of influence tactics representing each category are shown in Table 2.

Kipnis also suggested that when stronger types of influence are used (e.g. assertiveness, sanctions, upward appeal, and blocking) it leads to a more negative evaluation of the target by the influencer [11]. This is because the stronger types of influence establish a hierarchy or superior/subordinate relationship, denoted by the ability of the influencer to demand, threaten, or go to higher levels in the organization, rather than a peer relationship of explanation, exchange of favors or providing a feeling of importance.

### 2.3. Bruins' Power Use Model

The "Power Use Model" was developed by condensing Kipnis' approach [10]. Also based on Raven's Power Interaction Model, this model identifies influence tactics only as "soft" or "hard" based on

**Table 1**
Raven's social power bases and corresponding influence [16,18].

| Base of power | Form of influence | Example of actions |
|---|---|---|
| Reward | Impersonal reward | Give something desired |
| | Personal reward | Receive personal approval from someone liked or valued highly |
| Coercion | Impersonal coercion | Impose punishment |
| | Personal coercion | Threaten rejection or disapproval from someone valued highly |
| Legitimacy | Position power | Tell/ask to do something because they are your boss/superior |
| | Reciprocity | Oblige someone to do something because you did something for them |
| | Responsibility or dependence | Depend on someone to do something because they are the only one who can do it |
| | Equity (compensatory) | Oblige someone to do something to make up for pain or difficulty they caused |
| Expertise | Positive | Inform someone how something should be done because of your previous experience with it or knowledge |
| | Negative | Imply that someone does not know as much about this as you do |
| Reference | Positive | Mimic or model yourself after someone |
| | Negative | Do the opposite of what someone does or recommends due to unattractive actions or negative feelings toward them. |
| Informational | Direct | Explain the reason using logical arguments that this is the case, to help someone understand |
| | Indirect | Overhear a conversation or mention a similar case |