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Shari R. Veil

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Keywords

Adoption, presumption, justifications, Organizational Rhetoric, National Animal Identif ication System, leadership, research

Research

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Introduction

According to the origins of argumentation theory, in any given case there is an *a priori* argument or ground of presumption in which the argument to maintain the status quo exists (Whately, 1855). Whately's (1855) *Elements of Rhetoric* described an *a priori* case as "a preoccupation of the ground that must stand good till some sufficient reason is adduced against it" (p. 139). Whately explained no change is good in itself, and those proposing change must provide sufficient reasons as to why the change is for the better. Presumption is described as the normal or customary standing (van Eemeron, Grootendorst, & Henkemans, 1996). The ground of presumption, then, generally exists in the currently maintained argument of the way things have always been done. The burden of proof must be argued by those who would dispute the existing understanding, or "propose alterations in existing institutions" (Sproule, 1976, p. 118).

Whately (1855) contended before one can judge an argument he/she must first determine "on which side the presumption lies, and to which belongs the (onus probandi) burden of proof" (p. 139). Rescher's (1977) description of burden of proof implied the proponent of change undergoes a process of changing commitments throughout the dialectical exchange. In other words, the arguer who must present proof as to why the process must change may need to continuously evaluate and adapt the means of persuasion. Therefore, encouraging the adoption of an innovation, especially one that replaces the status quo, requires an evolving argument to shift the ground of presumption.

In April 2005, the Animal Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA) released a draft of the Strategic Plan for a National Animal Identification System (NAIS). The plan argued for animal trace back within 48 hours to quickly mitigate a naturally occurring disease or an agroterrorist attack. An innovative tool suggested for this potentially mandated program included radio frequency identification (RFID) tags for cattle. The plan was posted on the USDA-APHIS website allowing organizations involved in the livestock industry to post comments. In the state of North Dakota, the status quo for animal identification is branding, and the North Dakota Stockmen's Association (NDSA) is appointed by legislature to track livestock through brand records. In July 2005, the executive vice president of NDSA posted comments overwhelmingly criticizing the strategic plan. NDSA's organizational rhetoric, as presented in those online comments, thoroughly rejected USDA-APHIS's argument for NAIS.

This study examines the role of leadership and organizational rhetoric in the adoption or rejection of an argument for change. First, diffusion of innovation theory is reviewed. Second, the role of opinion leaders and organizational rhetoric in the adoption process is explained. Third, the background of an agricultural-based diffusion campaign grounded in industry risk is provided. Fourth, cluster analysis is used to identify barriers to the adoption of the Strategic Plan for NAIS specifically found in organizational rhetoric of NDSA. Finally, implications are provided for how a rhetorical approach to diffusion can assist change agents in identifying how to rationalize and legitimize the adoption of an innovation and thereby shift the ground of presumption.

Literature Review

Diffusion Theory

Diffusion is "the process in which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 2003, p. 5). Traditional diffusion studies often underscore the role of rhetoric in the adoption process (Abrahamson & Fairchild, 1999; Hirsch, 1986; King & Kugler, 2000; Strang & Meyer, 1994). Green (2004) argued innovations are not adopted because they are effective and the characteristics of potential adopters make them ripe for acceptance, but because adoption has been rhetorically shaped and promoted by organizational actors (King & Kugler, 2000; Zbaracki, 1998). Investigating rhetoric in and by organizations has been well documented in research literature (Cheney & McMillan, 1990; Crable, 1986, 1990; Sproule, 1989; Tompkins, 1987). The notion of leadership appearing as and speaking for an organization has also been explored (Crable, 1990; Heath & Nelson, 1986; Heath, 1988; Weber, 1978). Yet, even Rogers (2003) acknowledged a major weakness in organization-based innovation studies is that the influence of those in leadership roles has not been taken into account.

The original idea of diffusion was first expounded on by Tarde in his 1903 book, *The Laws of Imitation*. The first application of the diffusion model can be traced to the agricultural industry. Focusing on the adoption of hybrid seed corn in Iowa, Ryan and Gross's (1943) influential study provided the basic framework for diffusion research, using retrospective surveys to determine the rate by which individuals adopt an innovation over time. The rate of adoption traditionally forms an S-shaped curve as a few individuals adopt the innovation at first before the adoption rate accelerates and then tapers off once most individuals have adopted the innovation (Ryan & Gross, 1943). Rogers (2003), who extended and popularized diffusion of innovation into multiple disciplines, places adopters along this curve into categories of (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards based on at what point the adopter is able to accept the uncertainty of the innovation.

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Diffusion of innovation research is used to evaluate the adoption process of innovations as diverse as cancer treatment and internet use in industries as diverse as agriculture and fashion.

The point of adoption is determined in the decision-making process of (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation (Rogers, 2003). Knowledge or awareness is the first stage in the decision making process where the individual learns about the innovation and how it works (Rogers, 2003). The awareness may be passive in that the individual does not actively try to find information on the innovation. The predispositions of individuals may also influence how they become aware of an innovation. Rogers (2003) stated, "Individuals tend to expose themselves to ideas that are in accordance with their interests, needs, and existing attitudes" (p. 171). Consciously or unconsciously, through a tendency called selective exposure, individuals notice and respond to information consistent with their existing attitudes and beliefs (Rogers, 2003). Individuals will rarely seek out information about an innovation unless they first feel a need for it.

In the knowledge or awareness stage, individuals look for information on the innovation in order to reduce uncertainty and compare advantages and disadvantages of the innovation (Rogers, 2003). They try to learn how to use the innovation and how it actually works. As Rogers (2003) suggested, if an innovation is complex, "the amount of how-to knowledge needed for adoption is much greater," and without adequate how-to knowledge before adoption, "rejection and discontinuance are likely to result" (p. 173). Regardless of the amount of knowledge gained in this step, awareness of the innovation and how it works does not necessarily lead to adoption of an innovation.

In the persuasion or interest stage individuals form a favorable or unfavorable attitude toward the innovation (Rogers, 2003). The information discovered about the innovation at this stage is interpreted based on selective perception. Information on the innovation will have little effect if the individual does not feel the innovation is relevant to their needs or consistent with their established beliefs (Hassinger, 1959). Attributes of the innovation are very important at this stage because perception of the innovation is established.

During the decision stage individuals usually try the innovation to see if they like it or vicariously learn about the innovation by observing others using it (Rogers, 2003). Even though a decision to adopt the innovation may be made in this stage, rejection can still occur if the individual does not act on the decision. Collective behavior is also very influential during the decision stage (Rogers, 2003). If an individual feels pressure to adopt or reject an innovation, personal knowledge and perception of the innovation may be discounted in the decision stage.

During implementation individuals actually begin using the innovation (Rogers, 2003). Re-invention often occurs at this stage when the user alters the innovation to suit his or her needs (Rogers, 2003). Regardless of the purpose of the innovation, how it is used determines whether it is re-invented. The implementation stage ends when the innovation is no longer considered new.

During confirmation, the final stage in the decision making process, individuals look for support of their decision to adopt the innovation (Festinger, 1957; Rogers, 2003). If the decision is reinforced by others, the innovation will continue to be used. However, if individuals do not find support for their decision, they may discontinue using the innovation (Rogers, 2003). Discontinuance occurs when individuals either find a replacement for the innovation or they become dissatisfied with the innovation (Rogers, 2003).

Throughout the decision making process, individuals evaluate the attributes of the innovation. While studies in educational settings (Holloway, 1977), information technology (Kearns, 1992; Moore & Benbasat, 1991); healthcare (Goldman, 1992) and agriculture (Kremer et. al, 2001) have

examined and even added to the list of attributes, the five attributes defined by Rogers (2003) including (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability, continue to be used as the base from which attribute categories are expanded.

The first and most influential attribute is relative advantage (Rogers, 2003). "Relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes" (Rogers, 2003, p. 15). Whether an individual or organization receives an actual benefit from an innovation does not determine the rate of adoption. If an individual or organization perceives the innovation to provide advantages over the current system, the innovation will be adopted. According to Rogers (2003) "The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be" (p. 15). Relative advantage is often expressed with financial terms since an innovation is not likely to be adopted if the costs outweigh the benefits. Incentives, specifically financial incentives, help encourage adoption of an innovation when costs are a major concern of potential adopters (Rogers, 1973).

The second attribute is compatibility. The innovation must coincide with "existing values, experiences, and the needs of potential adopters" (Rogers, 2003, p. 15). If an innovation is compatible with established norms in an organization it will be adopted more rapidly than one not inline with existing practices of the organization. As Rogers (2003) notes, "The rate of adoption of a new idea is affected by the old idea that it supersedes" (p. 245). The rate of adoption may be impeded if the innovation is not compatible or is simply too different from the system currently in place.

"Complexity is the degree to which an innovation is perceived as difficult to understand and use" (Rogers, 2003, p. 16). If the innovation requires potential adopters to develop additional skills, the time required to attain those skills may delay the innovation adoption. The innovation must also be user friendly, not just to those who propose the innovation, but more importantly, to the end users. In this sense, complexity can act as a barrier to adoption when a technology-based innovation is introduced to a non-technical field (Rogers, 2003). In addition, potential adopters must understand what purpose the innovation will serve. As Rogers (2003) stated, "Some innovations are clear in their meaning to potential adopters while others are not" (p. 257). The innovation will be rejected if potential adopters do not understand the consequences of using the innovation.

Trialability is the degree to which an innovation may be used before committing to adoption (Rogers, 2003). If potential adopters are able to try out the innovation to determine how it functions and if it works, adoption becomes more likely as uncertainty about the innovation is reduced. However, if potential adopters have a negative experience when trying the innovation, the adoption rate will diminish. For example, if the innovation does not work as it is designed to work in the trial period, there would be no reason to adopt the innovation when it is formally disseminated.

Observability is a measure of how visible the results of the innovation are to others (Rogers, 2003). Potential adopters who are able to see the innovation working in a real-world setting, beyond the trial phase, are more likely to adopt the innovation. The more individuals see other people using an innovation, the more likely they are to adopt the innovation as well. Innovations used privately, cannot be seen, or have ambiguous results have a slower adoption rate than those highly visible with obvious results. Preventative innovations have a particularly slow rate of adoption because the desired outcome is to prevent a future event (Rogers, 2003). Because the event has not occurred and may not occur, the results may never be visible.

How potential adopters perceive the five attributes of an innovation affects the relative speed with which an innovation is adopted. How the attributes are presented as information is diffused

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and sought in the decision-making process is another essential element in the diffusion model. Mass media channels are usually the most rapid and efficient means of sharing information with an audience; however, because diffusion of innovation takes place in a social system, interpersonal channels are actually more effective in persuading an individual to accept a new idea (Rogers, 2003). Specifically, the role of opinion leaders can greatly influence the adoption process of an innovation (Severin & Tankard, 1997).

Opinion Leaders and Organizational Rhetoric

Opinion leadership is described as a transparent role in informal relationships (Katz & Lazarsfeld, 1955). Opinion leaders are influential people within a peer group who serve as pacesetters or models for the innovation behavior of their followers (Turnbull & Meenaghan, 2001). Opinion leaders tend to be more educated, innovative, wealthy, and have a higher social status than those who follow their leadership (Rogers & van Es, 1964; Rogers & Svenning, 1969). Opinion leaders also tend to have a high-perceived level of leadership (Weir, 1990).

While the leadership role of an opinion leader is usually inconspicuous (Katz & Lazarsfeld, 1955), Mancuso (1969) suggested status, along with mobility and confidence, are the main characteristics of an opinion leader. Wasson, Sturdivant, and McConaughty (1970) proposed the opinion leader is the most prestigious member of the group. Thus, the dual role of an opinion leader in an organizational leadership role has the potential to influence the adoption process. Because of their influence on organizational rhetoric, leaders who become advocates for or against an innovation can actually become change agents or champions in the process (Rogers, 2003).

Research suggests leaders are able to appear as and speak for an organization (Crable, 1990; Heath & Nelson, 1986; Heath, 1988; Weber, 1978). Through the hierarchal privilege of rhetorical power, leadership is also able to exercise control over the language of an organization (Cheney & McMillan, 1990; Weber, 1978). Tompkins (2005) concurs when stating a culture in which members identify with the organization can work "as a form of control as well as of motivation and identity formation" (p. 107). The individual is constrained by incorporated power (Cheney & McMillan, 1990) as organizational values supersede individual values (Hegstrom, 1990). Cheney and Lair (2005) noted "examining the constitutive nature of rhetoric in organization helps us to understand the range of persuasive activities, both overt and subtle, that are inherent in any type of organization's argument for its own existence, continuance, and growth" (p. 64). The potential influence of opinion leaders in organizational leadership roles further complexes the decision to adopt or reject an innovation in an organizational setting.

Green (2004) posited diffusion is a product of rhetoric. In an institutional setting, discourse is used to communicate to organizational stakeholders that the adoption of an innovation is rational and complies with the norms of progress (Abrahamson, 1996; Abrahamson & Fairchild, 1999). While the role of discourse in the diffusions process has been examined (Strang & Meyer, 1994), the ways in which culture and discourse restrict alternatives in the adoption process have not been explained (Barley & Tolbert, 1997). A rhetorical theory of diffusion, as offered by Green (2004), recognizes diffusion does not take place in a social vacuum. Adoption occurs when agents provide discursive justifications that rationalize and legitimize the innovation (King & Kugler, 2000; Strang & Meyer, 1994; Tolbert & Zucker, 1996). As noted, Rogers (2003) suggested a major weakness in organization based innovation studies is that the influence of those in leadership roles has not been taken into account.

Diffusion studies have also been criticized for being pro-innovation (Rogers, 2003). Following Ryan and Gross's (1943) research process, most diffusion studies are conducted retrospectively after an innovation has been accepted; therefore, few rejected innovations are studied to determine why the innovation was not adopted. Conducting research as an innovation is being diffused rather than after the fact would provide insight as to the motivations for adopting or rejecting an innovation (Rogers, 2003). This process would allow for specific questions concerning the attributes of diffusion (relative advantage, compatibility, complexity, trialability, and observability) (Rogers, 2003) and an examination of the barriers to adoption as articulated in the rhetorical appeals of organizational leaders.

Contributions in agriculture diffusion acknowledge the slow adoption process in the industry. Ashby et al. (1996) found many farmers were slow to adopt new practices even though they understood the practices would help improve the land. While Saltiel, Bauder, and Palakovich (1994) found negative farmer perceptions regarding any one element or combination of elements in an innovation can limit the adoption of new practices. Saltiel et al. (1994) also suggested the diverse goals and wide range of practices in the industry make the current frameworks for explaining adoption in agriculture inadequate. Examining opinion leaders and change agents in the industry, Röling, Ascroft, and Chege (1976) found even within the agriculture industry, social status impacts the diffusion process.

A recent diffusion campaign in the agricultural industry was not only rejected by the leaders of some agricultural-based associations but was attacked rhetorically before the option of adoption was available to the membership. This study examines the rhetorical response of organizational leadership vehemently opposing an argument for the adoption of an innovation as it was being diffused.

Case Description

Following 9/11, the threat of an agroterrorist attack was added to the list of potential crises for the U.S. agriculture industry. If a terrorist succeeded in contaminating the United States food supply, the resulting deaths and lasting mistrust of the supply system could be devastating (Wilcox & Cameron, 2006). To assist in the prevention and mitigation of an agroterrorist attack, the Animal Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA) expanded the number of inspectors posted at borders and officers reported to the Department of Homeland Security (DHS) (Gips, 2003). While there had been concern that urban terrorist threats would override the agricultural mission of APHIS, moving APHIS officers into DHS made the potential threat of agroterrorism one of the nation's top priorities (Venette, Veil, & Sellnow, 2005).

In April 2005, USDA-APHIS released a draft of the Strategic Plan for NAIS suggesting RFID tags as a potential mitigation tool. RFID tags are small antennae attached to or imbedded in livestock ear tags that can be scanned when passed by an electronic reader (M. Riesinger, personal communication, June 2005). Prototype RFID tags were being tested, scanned, and mapped using university extension research facilities for field trials across the U.S. (NDSU, 2005). The original purpose of RFID in agriculture was to allow agents to quickly locate potentially infected livestock by maintaining a record of where cattle were last scanned by a reader. As technology progresses, RFID tags will have the potential to carry information such as the breed, age, weight, medical history, feed program, and herd information of cattle as they pass by readers in stockyards, feedlots, sales barns, and eventually slaughterhouses (M. Riesinger, personal communication, June 2005).

The Strategic Plan for NAIS was released on the USDA website allowing organizations involved in the industry to comment. In July 2005, the executive vice president of NDSA posted comments

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online criticizing the plan. NDSA is the organization currently responsible for tracking cattle in North Dakota. Established in 1929 to improve the plight of the cattle industry, in 1949 NDSA was appointed by North Dakota legislature to be the official brand inspection agency under the Packers and Stockyards Act (NDSA, 2004). In the online response to the strategic plan, NDSA admonished USDA-APHIS for its "failure to address cost, confidentiality, flexibility and the integration of current ID programs that are proven" (NDSA, 2004, para. 1).

On their website, NDSA claims to be the "state's spokesperson for the beef cattle industry" (NDSA, 2006, para. 3). Veil (2010) found 90% of NDSA members want NDSA to be involved in whatever identification process is used to track cattle in North Dakota, demonstrating membership reliance on the organization. Change agents providing the argument for NAIS and RFID technology as tools for agroterrorism intervention will have difficulty securing adoption without the support of NDSA (M. Riesinger, personal communication, June 2005). This study analyzed the organizational rhetoric evident in the official response to the strategic plan posted by NDSA leadership to identify barriers to the argument for adoption of NAIS and RFID technology.

Method

The rhetorical study of risk draws attention to texts and narratives in artifacts that influence interpretation (Sauer, 2003). A rhetorical artifact may "provide a vocabulary of thoughts, actions, emotions, and attitudes for codifying and thus interpreting a situation" (Foss, 2004, p. 70). By promoting a worldview specific to the rhetor, the terms used in an artifact constitute a screen that directs attention to particular aspects of reality over others. An individual's interpretation of the world is filtered through terministic screens built by the symbol systems to which they have been exposed (Burke, 1954). Terministic screens reveal the accepted interpretation of the rhetor and the barriers that prevent the rhetor from accepting an alternate interpretation (Burke, 1954).

Cluster analysis allows researchers to view the terministic screens of a rhetor by identifying the association of terms used by the rhetor (Burke, 1954). Cluster analysis has been used to analyze organizational ethics (Elliot, 2004), emergency response communication (Walker, 2000), and even meat consumption in the U.S. (Heinz & Lee, 1998). In cluster analysis, the meanings key symbols have for a rhetor are discovered by charting the symbols that cluster around those key symbols in an artifact (Burke, 1954). The critic selects the target artifact's key terms and observes those terms that cluster around them for the purpose of learning more about how the rhetor associates particular concepts (Foss, 2003).

Following Foss's (2004) description of coding for interpretation, clustering was used to categorize terms identifying NDSA's predisposition to accept or reject the argument for NAIS adoption. The comments posted by the executive vice president of NDSA in response to the proposed NAIS in July 2005 were downloaded from the USDA-APHIS website and used as the artifact for analysis. The artifact was systematically analyzed using the following procedure: (1) The artifact was first read initially to discern the tone of the comments. (2) Recognizing the critical nature of the comments, the artifact was analyzed to identify the negative terms used to describe elements of the plan. (3) The artifact was analyzed a third time to distinguish around what key terms the negative terms clustered. For example, the clustering of the negative terms *disappointed* and *failure* identified the word *cost* as a key term in this statement: "We are extremely disappointed in both documents for failure to address cost." (4) The key terms were then categorized based on their relation to the adoption attributes as themes of relative advantage, compatibility, complexity, trialability, and observability of the innova-

tion (Rogers, 2003). (5) The artifact was analyzed a fourth time to assure all terms where negative terms clustered were categorized into an attribute theme and no additional terms with negative clusters existed.

Results

The themes of relative advantage, compatibility, complexity, trialability, and observability of the innovation (Rogers, 2003) were all evident in NDSA leadership's response to the proposed animal identification procedure. The clustering of negative terms overlapped throughout the diffusion themes.

Relative Advantage

Comments related to a need for a cost/benefit analysis of the innovation in comparison to brand inspection were classified as a need for USDA-APHIS to provide an argument for the relative advantage of the technology over the current system. Rarely are individuals willing to pay more for a product less adequate than their current product. In the case of the NAIS, RFID was being proposed without addressing who would bear the cost of the innovation. In discussing the current understanding of the purpose of the system, symbols that clustered around statements associated with cost and relative advantage included *disappointed, failure, responsibility, burden,* and *unfair.* The clustering of *disappointed* and *failure* around cost includes this example:

> We are extremely disappointed in both documents for failure to address cost. . .a cost/benefit analysis of various programs have not been done, so the industry cannot make an educated decision. . . . APHIS fails to adequately pursue the resources outside of its own staff to properly run this program.

Comments regarding who was *responsible* for these costs recurred throughout the artifact:

> Encouraging the development of state infrastructure falls far short of its responsibility, since it wants to mandate a costly program on the industry. . . . The federal government needs to seriously address their responsibility to fund this mandate.

Since NDSA leadership did not see the government taking responsibility for the costs, the potential mandate was seen as a *burden* to producers and not *fair*. *Burden* was commonly clustered around comments regarding cost:

> If this program is as important to the entire industry as reported to be, then why should only one segment of the industry, the producer, bear the entire cost. . . . USDA wants to ignore the cost element of this program by placing the entire burden on others. . . . This burden is being placed on all segments of the industry without regard for cost of equipment or manpower to administer.

By offering a recommendation, NDSA leadership alludes USDA is not being *fair* with the industry: "We suggest USDA do a fair cost/benefit analysis prior to any threats of mandates." While cost was a major issue in determining the relative advantage of the innovation, the lack of compatibility of the new plan in allotting for the current system further upset NDSA leadership.

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Compatibility

Comments related to a need to integrate the new technology with the current system of brand identification were classified as a need for USDA-APHIS to provide an argument as to the compatibility of the technology with the current system. Since NDSA leadership did not see a need to adopt the innovation to adhere to the goal of animal trace-back, symbols that clustered around statements associated with lack of flexibility in integrating the current system and compatibility included *fails, will/will not work, inadequate,* and *not factual.* The term flexibility was used in conjunction with the *failure* of integrating a system that currently *works*: "USDA talks about flexibility, but leaves no room for flexibility and fails to lay out a plan that gives states the flexibility to implement any plan that will work."

While the plan acknowledged other tracking systems exist, the system is seen as *inadequate* because it is not set up to allow for integration: "The remarks field is inadequate because it doesn't designate which fields would need to be entered, and that must be done for non-brand states receiving a shipment of cattle from brand states." NDSA leadership also stated USDA did not have *factual* information and was thereby out of touch with what actually *works* in the industry: "Your statement that premises identification cannot be used to record individual animal movements is not factual. We have proven through brand inspection, along with other buyer and auction records, that this can be done."

In addition to the new plan not acknowledging currently working systems in addressing compatibility, according to NDSA leadership, the plan also overlooked essential elements related to the complexity of the systems.

Complexity

Comments related to following timelines, compliance measures of different species, and security of information were classified as a need for USDA-APHIS to provide an argument as to its understanding of the complexity of animal identification. NDSA leadership was appalled by the lack of attention in addressing the complex issues in the system. Symbols that clustered around statements associated with timelines, compliance, and confidentiality in relation to complexity included *aggressive, unrealistic, responsibility, unfair,* and *unacceptable.* Timelines were seen as *aggressive* and *unrealistic* because they did not take into consideration the complex concerns inherent to the industry:

> Timeline for implementation is too aggressive. Most producers are unclear as to what is going to be required and are confused. . . . Timelines, again, are unrealistic with so little effort by USDA to answer the four concerns expressed by the industry.

NDSA leadership was also concerned about the lack of *responsibility* taken by the government to ensure compliance and felt the current compliance plan was *unfair* and *unacceptable*:

> If there is a mandated federal system, then the compliance should be the responsibility of the federal government (USDA). USDA needs to ensure compliance. The entity that is responsible needs to ensure compliance. . . . full compliance will be difficult. Who determines the 80% of animal movement? Does it mean 100% movement reporting at some facilities and 0% at others? Is that fair or acceptable. . . . It is unfair to burden one species over another, especially since the federal government is not willing to tell any of the species what the current proposed systems will cost.

Finally, in addressing the complexity of assuring confidentiality, NSDA again clustered the words of *unfair* and *unacceptable*:

> USDA cannot assure confidentiality and is pursuing legislation. We strongly feel that USDA needs to more aggressively pursue the legislation so that the industry knows what actually will be protected. It's unfair to the industry to assume that it will be passed in a form that is acceptable.

NDSA leadership stated producers have yet to be given evidence the technology can actually be tried and work effectively in the field. At the same time, the bureaucracy surrounding the system was seen as inhibiting the functionality of the system.

Trialability

Comments related to testing the technology, demonstrating it will work, and recognizing the potential barriers associated with bureaucracy surrounding the new system were classified as a need for USDA-APHIS to provide an argument as to the trialability of the innovation. Symbols that clustered around statements associated with the functionality of the technology in relation to trialability included: *failure, obstacles, unrealistic, premature, foolish,* and *ridiculous.* The technology in the field was seen as a *failure* in functionality and recognition of *obstacles*:

> [T]hese standards fail to address the other equipment that must also function at -40 degrees Celsius, in manure, humidity, heat and various other weather conditions. It also fails to recognize other obstacles that cause equipment failure that are beyond the control of the operator. Failure to recognize these obstacles will result in hundreds of millions of dollars spent on equipment and personnel that is destined to fail and interrupt commerce.

NDSA leadership did not attempt to hide its contempt for government intervention. The bureaucracy surrounding the implementation of the system was seen as *unrealistic, premature, foolish,* and *ridiculous:*

> These stage designations are unrealistic and premature. It appears very bureaucratic with report after report needing to be filed when time and effort need to be put into trying to make the system functional and simple as possible. . . . Requiring premises information updated annually is foolish. It fails to recognize what states are doing, and, that most often, little will change on the premises information itself. . . . We find it ridiculous that USDA is taking 47 comments and making the determination that the system should be mandatory. With more than a million producers, many have no idea what this system will entail, it is not logical that people can honestly state it should be mandatory.

NDSA leadership was further upset because USDA could not prove the technology could be observed actually working at the speed of commerce.

Observability

Comments related to the system working at the speed of commerce were classified as a need for USDA-APHIS to provide an argument as to observability of NAIS actually working within the

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fast-paced agricultural market. Symbols that clustered around statements associated with observability included: *not convinced, not tested,* cannot *actually occur, not guaranteed,* and not *proven*. NDSA leadership was skeptical or *not convinced* working technology will *actually occur* at the speed of commerce because the innovation has yet to be *tested*:

> A mandatory identification program may be necessary, however, we are not convinced that it needs to be the same system nation-wide or be mandatory by 2009, especially since the current RFID plan has not been fully tested to assure that cattle can be processed at the speed of commerce. . . Again, animal tracking, which will be the most expensive both in infrastructure and labor, is the most challenging and we question if it can actual occur under this system at the speed of commerce.

NDSA leadership had not had the opportunity to observe the technology functioning at the speed of commerce and USDA have *not guaranteed* it will work by *proving* the system will work:

> USDA admits this will be the most challenging, yet have not guaranteed, through proper pilot programs, that this can even be done at the speed of commerce and at a cost that doesn't put a huge burden on the producers.

Also referencing the cost analysis required in establishing relative advantage as well as the speed of commerce, NDSA leadership commented, "There is no incentive for industry reps to legislate anything until USDA puts a cost estimate together, as well as prove the electronic system will work at the speed of commerce."

Throughout NDSA leadership's response to NAIS, negative comments clustered around terms related to the attributes influencing the diffusion of innovation adoption process. In fact, the themes of relative advantage, compatibility, complexity, trialability, and observability were all identified with negative connotations. Based on the comments submitted to USDA-APHIS, NDSA leadership rejects the argument for NAIS and the use of RFID technology for tracking cattle. The organizational rhetoric of NDSA also encourages the rejection of the plan by its membership. Therefore, the ground of presumption or status quo for tracking cattle through branding is maintained.

Discussion

Since NDSA is the organization responsible for tracking cattle in North Dakota, NAIS and RFID can be seen not as innovations to the industry but as threats to the organization. The purpose of NAIS and RFID technology is to quickly mitigate a livestock disease outbreak by locating and identifying potentially infected cattle. If a cow is diagnosed with a disease like foot and mouth disease (FMD), inspectors using RFID technology could access a national computer database to determine what cattle were in contact with the cow at each location it was scanned. NDSA would follow a similar process by accessing a paper trail of brand identification records in states that brand. The accuracy of brand identification in North Dakota is not being questioned; however, the speed by which cattle can be located across the country is a major concern in the event of a contagious disease outbreak. RFID could replace branding and alter the mission of NDSA by making its state appointed purpose redundant with a federally mandated system. The NDSA executive vice president specifically stated, "Those that brand don't see a need for another system. Why are we creating a system to duplicate what we already have?" (W. Moser, personal communication, June 2005).

Studying the proposed NAIS and RFID technology in North Dakota presents a different scenario than what would be found in a state that does not maintain an animal identification system. NDSA has the ground of presumption in the prevailing opinion that animal identification is accomplished through brand inspection. The burden of proof lies with those proposing NAIS and RFID to demonstrate the new system is superior to what is currently in place. As the decision-making process is enacted, the influence of NDSA as an opinion leader can greatly affect the adoption of NAIS and RFID by member producers.

In order for adoption to occur, an individual or organization must be aware of the innovation and gain an understanding of how it works (Rogers, 2003). Since knowledge is limited by selective exposure, individuals are not likely to acknowledge information about an innovation unless they first feel a need for the innovation (Rogers, 2003). NDSA feels they are already addressing the need for traceback in disease mitigation through brand identification; therefore, there is no reason to seek out and share information with the membership about NAIS and RFID. With little or no prior knowledge about NAIS, livestock producers who are members of NDSA may not understand and therefore not process the persuasive argument directed at them by USDA-APHIS.

The perception of the innovation is established during the persuasion or interest stage of the adoption process, therefore, the attributes of the innovation are very important at this stage in the decision making process. As noted, throughout NDSA leadership's response to NAIS, negative comments clustered around terms related to the attributes influencing the diffusion of innovation adoption process. The themes of relative advantage, compatibility, complexity, trialability, and observability were all identified with negative connotations. Therefore, the organizational rhetoric of NDSA repeatedly discounted the persuasive argument of USDA-APHIS.

The knowledge required for the implementation stage of the decision making may also act as a barrier to adoption. As Rogers (2003) suggested, if an innovation is complex, "the amount of how-to knowledge needed for adoption is much greater," and without adequate how-to knowledge before adoption, "rejection and discontinuance are likely to result" (p. 173). The researchers and government workers at USDA-APHIS who are proposing NAIS are educated and likely work with technology on a regular basis. Meanwhile, NDSA leadership, representing livestock producers who may not be accustomed to using technology, may not feel membership will be able to work with RFID. By not providing the how to knowledge to membership, NDSA leadership can further limit adoption.

As Hassinger (1959) noted, the innovation must also be consistent with the established belief system of the individual or organization. Branding has become a way of life for livestock producers in the Midwest (L. Schuler, personal communication, June 2005). A brand is the identifying symbol for a cattle operation and is one of the many practices passed down through generations on family farms. In discussing the purpose of the state brand book, the chief NDSA brand inspector commented, "besides the book's obvious use to verify the ownership of livestock, you can bet some family member in future generations will treasure it for its historical value if they have one" (NDSA, 2006c, para. 7). To introduce technology that would take the place of a symbol similar in many aspects to a family crest does not coincide with the established belief system of many livestock producers or the organizational leadership representing them.

Change agents seek the acceptance of opinion leaders in order to accelerate the adoption process, however, opinion leaders opposed to the adoption can instead act as a barrier that can stall or even halt the learning process. If members replicate the articulation of barriers presented by the organization, change will not likely occur until sufficient reason is presented. As Whately (1855) explains,

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no change is good in itself, and those proposing change must provide sufficient reasons as to why the change is for the better.

As the self proclaimed "state's spokesperson for the beef cattle industry" (NDSA, 2006b, para. 3), NDSA leadership is an opinion leader in the industry. NDSA leadership spoke for its members in the response submitted to USDA-APHIS: "We are extremely disappointed. . . . we find it ridiculous. . . . we are not convinced. . . . we question. . . . " NDSA leadership rhetorically shaped and promoted the rejection of NAIS and RFID technology (Green, 2004; King & Kugler, 2000; Zbaracki, 1998). NDSA's official response to NAIS, as a rhetorical artifact, provided a "vocabulary of thoughts, actions, emotions, and attitudes for codifying and thus interpreting" the worldview of NDSA leadership (Foss, 2004, p. 70; Burke, 1954). The negative terms used in the artifact directed attention to the particular barriers to adoption perceived by NDSA leadership.

Analyzing NDSA's response as the plan was being introduced rather than after the plan was adopted or rejected by the industry as a whole provided insight as to NDSA's motive for rejecting NAIS and RFID (Rogers, 2003). As an opinion leader, NDSA's executive vice president serves as a model for the innovation behavior of NDSA members. In exercising control over the language of the organization (Cheney & McMillan, 1990; Weber, 1978), NDSA leadership promoted the rejection of the innovation through organizational rhetoric (Severin & Tankard, 1997). By condemning the plan and technology, NDSA positioned the NAIS as irrational and incompatible with the industry (Abrahamson, 1996; Abrahamson & Fairchild, 1999).

Conclusion

The role of rhetoric in the adoption process has been significantly overlooked (Abrahamson & Fairchild, 1999; Hirsch, 1986; King & Kugler, 2000; Rogers, 2003; Strang & Meyer, 1994). This study examined the rhetorical response of organizational leadership vehemently opposing an innovation as it was attempting diffusion. Specifically, cluster analysis was used to identify barriers to adoption found in NDSA's official response to the Strategic Plan for NAIS.

Based on the negative terms clustered around concepts related to the adoption process, USDA-APHIS was not able to provide adequate arguments to persuade NDSA leadership to encourage the adoption of NAIS and RFID technology as a tool for tracking cattle. In fact, NSDA leadership promoted the rejection of the innovation in the organizational rhetoric, potentially slowing down or even halting the diffusion process in the membership. While there is an apparent need to enact a secure, universal, animal identification system to mitigate naturally occurring and intentional livestock disease outbreaks, before adoption of NAIS by NDSA members is likely to occur, USDA-APHIS must first rhetorically address the barriers articulated by NDSA leadership.

This study used cluster analysis to categorize themes to identify an organization's predisposition to reject an innovation. Change agents who recognize the role of rhetoric in the diffusion process will be more effective if they are able to identify the discursive justifications needed to rationalize and legitimize the adoption of an innovation. Based on the literature reviewed and the analysis in this study, these justifications can be identified by analyzing organizational rhetoric and determining the influence of organizational leadership as an opinion leader in the diffusion process.

Key Words

Diffusion of Innovation, opinion leaders, risk communication, organizational communication, National Animal Identification

References

Abrahamson, E. (1996). Management fashion. *Academy of Management Review, 21*, 254-285.

Abrahamson, E., & Fairchild, G. (1999). Management fashion: Lifecycles, triggers and collective learning processes. *Administrative Science Quarterly, 44*, 708-740.

Agricultural Research Service, United States Department of Agriculture. (2002). *ARS national programs, animal health*. Retrieved May 20, 2002, from http://nps.ars.usda.gov/programs/programs.htm?npnumver=103.

Ashby, J. A., Beltrán, J. A., Guerrero, M. P., & Ramos, H. F. (1996). Improving the acceptability to farmers of soil conservation practices. *Journal of Soil and Water Conservation, 51*, 309-312.

Barley, S. R., & Tolbert, P. S. (1997). Institutionalizatin and structuration: Studying the links between action and institution. *Organization Studies, 18*, 93-117.

Burke K. (1954). *Permanence and change: An anatomy of purpose.* Berkeley: University of California Press.

Cheney, G., & Lair, D. (2005). Theorizing about rhetoric and organizations: Classical, interpretative, and critical aspects. In S. K. May and D. K. Mumby (Eds.), *Engaging organizational communication theory and research* (pp. 55-84). Thousand Oaks, CA: Sage.

Cheney, G., & McMillan, J. J. (1990). Organizational rhetoric and the practice of criticism. *Journal of Applied Communication Research, 18*(2), 93-114.

Crable, R. E. (1986). The organizational system of rhetoric: The influence of megatrends into the twenty-first century. In L. W. Hugenberg (Ed.), *Organizational communication: Traditional themes and new directions* (pp. 235-258). Newbury Park, CA: Sage.

Crable, R. E. (1990). Organizational rhetoric as the fourth great system: theoretical, critical, and pragmatic implications. *Journal of Applied Communication Research, 18*(2), 115-128.

Elliot, K. C. (2004) A cluster analysis of Enron's Code of ethics. In S. K. Foss (Ed.), *Rhetorical Criticism: Exploration & Practice* (3rd ed.). Long Grove, IL: Waveland Press.

Festinger, L. (1957). A Theory of Cognitive Dissonance. Stanford, CA: Stanford University Press.

Foss, S. K. (2004). *Rhetorical criticism: Exploration and practice.* (3rd ed.). Long Grove, IL: Waveland Press.

Gips, M. A., (2003). The first link in the food chain. *Security Management, 47*(2), 40-48.

Goldman, K. D. (1994). Perceptions of innovations as predictors of implementation levels: The diffusion of a nationwide health education campaign. Health Education Quarterly, 21, 433-444.

Green, S. E. (2004). A rhetorical theory of diffusion. *Academy of Management Review, 29*(4), 653-669.

Hassinger, E. (1959). Stages in the adoption process. *Rural Sociology, 24*, 52-53.

Heath, R. L. (1988). *Federal trade commission intervention into corporate rhetoric.* Paper presented at the annual meeting of the Speech Communication Association, New Orleans.

Heath, R. L., & Nelson, R. A. (1986). *Issues management: Corporate public policymaking in an information society.* Newbury Park, CA: Sage.

Hegstrom, T. G. (1990). Mimetic and dissent conditions in organizational rhetoric. *Journal of Applied Communication Research, 18*, 141-152.

Heinz, B., & Lee, R. (1998). Getting down to the meat: Associational clusters and symbolic alignments in the discourse of animal consumption. *Communication Studies, 49*, 86-99.

Hirsch, P. (1986). From ambushes to golden parachutes: Corporate takeovers as an instance of cul-

https://newprairiepress.org/jac/vol94/iss1/4
DOI: 10.4148/1051-0834.1185

tural framing and institutional integration. *American Journal of Sociology, 91*, 800-837.

Holloway, R. E. (1977). *Perceptions of an innovation: Syracuse University's Project Advance.* Syracuse, NY: Syracuse University.

Katz, E., & Lazarsfeld, P. F. (1955). *Personal influence.* New York: The Free Press.

Kearns, K. P. (1992). Innovations in local government: A sociocognitive network approach. *Knowledge and Policy, 5*(2), 45-67.

King, W. R., & Kugler, J. L. (2000). The impact of rhetorical strategies on innovation decisions: An experimental study. *Omega, 28*, 485-499.

Kremer, K. S., Crolan, M., Gaiteyer, S., Tirmizi, S. N., Korshing, P. F., Peter, G., & Tong, P. (2000). Evolution of an agricultural innovation: The N-Track Soil Nitrogen Test: Adopt, and discontinuance, or reject? *Technology in Society, 23*, 93-108.

Mancuso, J. R. (1969). Why not create opinion leaders for new product introductions? *Journal of Marketing, 33*, 20-25.

Moore, G. C., & Benbasat, I. (1991). An examination of the adoption of information technology by end-users: A diffusion of innovations perspective (Working paper 90-MIS-012). *Department of Commerce and Business Administration.* Vancouver, Canada: University of British Columbia.

North Dakota State University. (2005). *Agrosecurity: Disease surveillance and public health* [Brochure]. Fargo, ND: Knight Printing.

North Dakota Stockmen's Association. (2004). *Living the legacy: 75 years of the North Dakota Stockmen's Association.* [Brochure]. Bismarck, ND.

North Dakota Stockmen's Association. (2005). *Comments submitted on the National Animal Identification System Strategic Plan.* Retrieved August 25, 2005, from http://www.ndstockmen.org/images/animal%20id%20comments.htm

North Dakota Stockmen's Association. (2006). *Welcome.* Retrieved March 12, 2006, from http://www.ndstockmen.org

Piller, C. (2004, September 12). US agriculture adds defenses against terrorism; some microbes or poisons could ruin confidence in U.S. food and devastate the farm economy. *Orlando Sentinel.* p. G1.

Rescher, N. (1977). *Dialectics: A controversy-oriented approach to the theory of knowledge.* Albany, NY: State University of New York Press.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.

Rogers, E. M., & Svenning. L. (1969). M*odernization among peasants: The impact of communication.* New York: Holt Rinehart & Winston.

Rogers, E. M., & van Es, J. C. (1964). *Opinion leadership in traditional and modern Columbian peasant communities.* East Lansing, MI: Michigan State University.

Roling, N., Ascroft, J., & Chege, F. Y. (1976). The diffusion of innovations and the issue of equity in rural development. *Communication Research, 3*, 155-170.

Ryan, B., & Gross, N. C. (1943). The diffusion of hybrid seed corn in two Iowa communities. *Rural Sociology, 8*, 15-24.

Saltiel, J., Bauder, J. W., & Palakovich, S. (1994). Adoption of sustainable agricultural practices: Diffusion, farm structure, and profitability. *Rural Sociology, 59*, 333-349.

Sauer, B. (2003). *The rhetoric of risk.* Mahwah, NJ: Lawrence Erlbaum.

Severin, W. J., & Tankard, J. W. (1997). *Communication theories: Origins, methods, and uses in the mass media* (4th ed.). White Plains, NY: Longman Publishing Group.

Sparshott, J. (2004, February 24). Outbreak points out vulnerability of U.S. food supply. *The Washington Times.* p. A01.

Sproule, J. M. (1976). The psychological burden of proof: On the evolutionary development of Richard Whately's theory of presumption. *Communication Monographs, 43*, 115- 129.

Sproule, J. M. (1989). Organizational rhetoric and the public sphere. *Communication Studies, 40*, 258-265.

Strang, D., & Meyer, J. W. (1994). Institutional conditions for diffusion. In R. W. Scott & J. W. Meyer (Eds.), *Institutional environments and organizations: Structural complexity and individualism* (pp. 100-111). Thousand Oaks, CA: Sage.

Tolbert, P. S., & Zucker, L. (1996). The institutionalization of institutional theory. In S. R. Clegg, C. Hardy, & W. Nord (Eds.), *Handbook of organization studies* (pp. 175-190). Thousand Oaks, CA: Sage.

Tompkins, P. K. (1987). Translating organizational theory: Symbolism over substance. In F. M. Jablin, L. L. Putnam, K. H. Roberts, & L. W. Porter (Eds.), *Handbook of organizational communication: An interdisciplinary perspective* (pp. 70-96). Newbury Park, CA: Sage.

Tompkins, P. K. (2005). *Apollo, Challenger, Columbia. The decline of the space program*. Los Angeles: Roxbury Publishing Company.

Turnbull, P. W., & Meenaghan, A. (2001). Diffusion of innovation and opinion leadership.*European Journal of Marketing, 14*(1), 3-33.

Van Eemeren, F. H., Grootendorst, R., & Henkemans, F. S. (1996). *Fundamentals of argumentation theory: A handbook of historical backgrounds and contemporary developments*. Mahwah, NJ: Lawrence Erlbaum.

Veil, S. R. (2006). *Crisis communication and agrosecurity: Organizational learning in a high-risk environment*. Unpublished doctoral dissertation, North Dakota State University.

Venette, S. J., Veil, S. R., & Sellnow, T. L. (2005). Essential communication resources for combating bioterrorism: Some practical and generalizable recommendations. *Communication Research Reports, 22*, 29-37.

Walker, K. (2000). Lights, siren, action: A dramatistic analysis of ambulance crews. *American Communication Journal, 2*(1), 1.

Wasson, C. R., Sturdivant, F. D, & McConaughy, D. H. (1970). The social process of innovation and product acceptance. In S. H. Britt (Ed.), *Consumer behaviour in theory and in action* (pp. 252-255). New York: John Wiley & Sons.

Weber, M. (1978). *Economy and society, 2 vols.* (G. Roth & C. Wittich, Eds. and Trans.), Berkeley: University of California Press.

Weir, T. (1999). Innovators or news hounds? A study of early adopters of the electronic newspaper. *Newspaper Research Journal, 20*(4), 62-81.

Whately, R. (1855). *Elements of rhetoric.* Boston: James Munroe & Co.

Wilcox, D. L., & Cameron, G. T. (2006). *Public relations: Strategies and tactics* (8th ed.). Boston: Pearson Education.

Zbaracki, M. (1998). The rhetoric and reality of total quality management. *Administrative Science Quarterly, 43*, 602-636.

https://newprairiepress.org/jac/vol94/iss1/4
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