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Identifying Barriers to Change: What is Preventing the Acceptance of the New Fire Attack Strategy?

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed Charles F. Nagle

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Abstract

In 2011, the Haltom City Fire Rescue Department hired a new fire chief to lead the organization. As part of his organizational changes, the chief instituted a change in the structure fire attack strategy that was to be utilized by the members of the department. Four years later, the strategy was still not being employed by the fire officers. The problem was the Haltom City Fire Rescue Department did not know the barriers preventing the company officers from readily adopting the new positive pressure attack strategy for structure fires. The purpose of the study was to identify the barriers preventing the acceptance of the new structure fire attack strategy so that a smoother transition could be implemented.

The study utilized the descriptive approach to research in order to describe the current status or beliefs of the company officers. In order to fulfill the purpose of the study, the following research questions were asked: (1) What views do the company officers hold toward changing structure fire attack strategies? (2) What is the company officers' level of knowledge regarding the new attack strategy? (3) What are the cultural barriers preventing company officers from readily adopting the new fire attack strategy? (4) What are the structural barriers preventing company officers from readily adopting the new fire attack strategy? (5) How might the barriers be minimized or eliminated?

In addition to personal interviews with the company officers, the Resistance to Change scale was utilized in order to gain answers to the research questions. The results revealed the company officers held an average resistance to change. They identified communication, training, and a lack of faith in the ability of fire administration to successfully implement the program based on past failures. The company officers also noted they felt the new strategy would succeed depending on how the barriers were dealt with by fire administration.

Keywords: change, resistance, barriers, communication,

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Introduction

Change is often a sore subject to broach within the fire service. On one hand, many members of the fire service do not like to discuss the idea of changing. On the other hand, some members seem to thrive on change. Many people resist change, yet change is ever-present within our society. Firefighters are no different. Some people are against change because they feel the change is an indictment of prior decisions or actions (Jick & Peiperl, 2003). Other people make statements about being against change, but they cannot specifically verbalize why they are against the change. The bottom line is, simply, change occurs whether or not people get on board with the program. There is no escape from the forces pressing for change, whether they are internal or external to the organization (Wallace, 2007).

The problem was the Haltom City Fire Rescue Department did not know the barriers preventing the company officers from readily adopting the new positive pressure attack strategy for structure fires. The purpose of the study was to identify the barriers preventing the acceptance of the new positive pressure attack strategy so that a smoother transition can be implemented.

The study utilized the descriptive approach to research. A descriptive approach was used for the purpose of describing the characteristics of a sample at one point in time (Mertens, 2005), or to describe a phenomenon (McMillan, 2008). In this instance, the descriptive approach was used in order to describe the current status or beliefs of the company officers. In order to fulfill the purpose of the study, the following research questions were asked: (1) What views do the company officers hold toward changing structure fire attack strategies? (2) What is the company

officers' level of knowledge regarding the new attack strategy? (3) What are the cultural barriers preventing company officers from readily adopting the new fire attack strategy? (4) What are the structural barriers preventing company officers from readily adopting the new fire attack strategy? (5) How might the barriers be minimized or eliminated?

In this study, barriers to change equated to what was causing the resistance to change. The hope was that at the conclusion of the study, the Haltom City Fire Rescue Department could have a better idea of how to best manage the implementation of the new fire attack strategy.

Background and Significance

The Haltom City Fire Rescue Department is a full-time career organization located in Haltom City, Texas. Haltom City, Texas, is located in Tarrant County, and is in close proximity to both the cities of Fort Worth and Dallas. The city has a current population of 42,000. The department is staffed by 52 personnel and is led by a fire chief, a deputy chief, and three battalion chiefs. In order to protect the city, 48 personnel are assigned to the suppression division filling three shifts. Each shift works a 24-hour period followed by 48 hours off-duty.

The department is considered an all-hazards department with participation in activities including fire suppression, emergency medical services (EMS), technical rescue, hazardous materials, building inspections, public education, and fire investigations. Within the course of a year, the department responds to approximately 4,500 calls for service.

The department developed a long history of being an aggressive fire attack organization. Along with the reputation of being aggressive came attitudes that being on the attack hose was the primary reason the firefighters were supposed to be on the scene. Other duties were relegated to secondary status. Over the years, instances of firefighters sitting on nozzles while they adjusted their air masks so other firefighters would not take the nozzle from them occurred.

In 2011, the department hired a new fire chief to lead the force. The new chief was hired from outside of the department, and brought with him a new leadership style that decentralized the operation of the department. He was the first outside fire chief for the department in 25 years.

As part of the decentralization of the department, the new chief placed a new emphasis on strategy and tactics at the company officer level. The change implemented placed a new emphasis on the strategic thinking of the company officers. Along with the strategic thinking, company officers were required to accept a greater responsibility for their decisions made on the scenes of emergencies.

Many of the company officers were accustomed to being told what to do from a very centralized command structure. Now, however, they were the ones being asked to make the strategic and tactical decisions. One of the changes initiated was the introduction of positive pressure attack (PPA). This change was undertaken in order to help provide a safer environment in which both firefighters can work and victims can survive (Garcia, Kauffman, & Schelble, 2006). The use of PPA, while similar to positive pressure ventilation (PPV), was very different from the tactics currently utilized by the department.

Fast-forward four years and only minor change had occurred with the department as it related to the fire attack strategy. Company officers continued to make fire attacks on unvented structures utilizing the same attack strategies learned from the past decades. The reasons for the resistance to the acceptance of the new strategy have not been studied within the department. The hope is that definitive answers could be found in order to help move the department forward to becoming a more efficient life-saving organization. The better an organization functions, the better services they create (Jones, 2010). The department seeks to be an innovation leader. In

order to become an innovation leader, strategies must be developed in order to move on the initiative (Pisano, 2015).

One of the problems within the department was some sense of already being at the peak of performance when it came firefighting. This attitude is not all that different from what Rudolph Giuliani (2002) described as arrogance and self-satisfaction. Griffin (2015) noted that the fire service has no place for ego when firefighters must operate at peak efficiency on every call. This attitude can lead to a decrease in performance.

This study met the National Fire Academy (NFA) Executive Development criteria for linkage between the research problem and the concept of adaptive change. The study also supported the United States Fire Administration (USFA) operational Goal #3 to enhance the fire and emergency services' for response to and recovery from all hazards.

Literature Review

The literature review was conducted in order to provide a foundation upon which the concepts of the issues under investigation can be studied. To meet that end, a thorough understanding of the development of the firefighting culture in America, as well as, organizational learning and change were reviewed. Finally, a review of barriers and resistance to change were examined. The bulk of the material examined regarding organizational culture, change, and resistance to change came from research conducted outside of the fire service world.

For decades, researchers sought to explain why people objected to organizational change (Bringselius, 2014). The reaction to organizational change within the fire service is no different. The American fire service is rooted in tradition. From red fire engines, white helmets for fire chiefs, and dalmations, traditions abound with the fire service. Coupled with this collection of traditions is a tendency to resist change (Alyn, 2012). The *Oxford English Dictionary* defines

tradition as “the transmission of customs or beliefs from generation to generation” and also “a long-established custom or belief passed on in this way”. Many of the actions and beliefs held by firefighters are based primarily on tradition with the reasons for the actions being lost through time. The shape of the helmet, the color of the fire engine, and the list goes on. Often, when the mention of changing some aspect within the fire service was brought up, resistance was fierce (Coleman & Granito, 1988). Admittedly, much of the resistance is built upon rumor and innuendo. When someone looks back at the history of the fire service and compares the past with the present, the observer notices the fire service has changed over the years while retaining many of the old traditions that helped to build the image of the American firefighter (Willing, 2012). However, Alyn (2012) also noted that success in any public organization requires constant change and innovation.

Organizational change was described at the “process by which organizations redesign their structures and cultures to move from their present state to some future state to increase their effectiveness” (Jones, 2010, p. 9). Change across all contemporary public services, including the fire service, is a constant (Williams, 2007). Some of the change that has occurred was slow in coming, and many change programs totally fail (Beer & Nohria, 2011; Boonhene & Williams, 2012). Some people simply feel that if the system seems to work, why alter it? Others cling to the same ideas that brought an end to the volunteer firefighter era within the early American cities.

The constant forward march of technology pushes change onward. Early American volunteer firefighters came into conflict with the leaders of the cities due to the firefighter’s zeal to cling to the use of their hand-powered fire pumps (Paulsgrove, 1997). The volunteer firefighters believed, not only that their system worked, but that their jobs and their identities as

firefighters would be lost. The traditions that had developed around the pulling of the hand pumps, and the actual competing with other fire companies to see who could pump more water came to override the real purpose of why their organizations existed: they existed to save lives and fight fires. The urban environment changed. Environmental change requires organizational change (Kotter, 1996; Schmidt, 2013). The cities and the steam fire pumps prevailed, but the cycle of change similar to this event continues today.

Breaking the bonds of the past is critical for anyone attempting to introduce new change within any organization (Jick, 1991). Depending on the type of change to be implemented, the change agent must determine how much of a break with the past is necessary. Rapid change creates fear of the unknown for many employees. This fear of the unknown generates resistance with some people (Baker, 1989; Dent & Goldberg, 1999). The type of changes seen within the fire service in the past twenty years resulted in seminal changes in the operation of many departments. One of the biggest changes within the fire service occurred with the advent of the large-scale implementation of emergency medical services (EMS) (Bruegman, 2014). Traditionally, the fire service focused on fighting fires. When EMS began to sweep through the fire service in the 1970s and 1980s, firefighters who had been on the job for decades fiercely resisted the change to combining EMS with their traditional role of fighting fires. They were firefighters, not ambulance drivers. Today, EMS is an accepted part of the job.

The necessity to move forward is clear, but overcoming resistance is difficult. Real change requires people to change their behavior (Heifetz & Linsky, 2002; Jick & Peiperl, 2003) Moving forward and integrating a way of conducting business is hard work. Jick (1991) points out that “while it is unquestionably important to make a break from the past in order to change, it is also important to hang onto and reinforce those aspects of the organization that bring some

value to the new vision" (p. 178). Convincing people that the coming change is not the end of the world can be a daunting challenge. Good communication is a key to insuring success (Antonellis, 2012; Jick & Peiperl, 2003).

Good leaders must be able to make change look workable (Kotter, 1996). Many change programs fail due to poor management of the program itself (Fine, 1986). Good communication is vital. The only good way to convince workers that the coming change is a good idea is to provide good communication to the employees (Antonellis, 2012). Without factual communication being transmitted to the employees, the employees will transmit what they feel is the "real" information (Ward, 2006). Informal information pathways are very efficient in spreading news, whether factual or false. The sooner factual information is provided, the better the chance of overcoming rumors and innuendo that invariably arise (Antonellis, 2012). Real leaders prepare people to face problems, adversity, and change (Heifetz, 1994). Preparing people for change, especially some firefighters, involves convincing them that the coming change will not alter their self-perception of their identities as firefighters (Milan, 2013).

To those who are attempting to implement change, resistance sometimes appears to look like sailors who refuse to believe their ship is sinking. Meanwhile, the waters rise around them, but the sailors cling to what they are accustomed, their ship. Communication is a key to change, but trusting in the people doing the communicating is vital (Jick & Peiperl, 2003).

Whether the coming change is minor or major, the people on the receiving end must trust the people presenting the new ideas (Heifetz, 1994). Kanter (2002) remarked that change within organizations became a way of life due to the business and work environments of today. Through years of study and experience, she believed that things that create and sustain change within organizations were the result of what she called "long marches". She was referring to on-

going efforts of people within organizations to make change a way of life. The rapid change programs may make the leaders feel better, but she felt that change programs that resulted in rapid changes took a toll on organizations. In order for real change to occur within organizations, including fire departments, people must adjust their behavior. Both Kanter and Heifetz promote the idea of creating an environment within organizations that promote change.

Creating an environment within the fire service that promotes ongoing change is difficult (Karpluk, 2013). Some of the difficulty is derived from the traditions that abound within the culture of the fire service (Avsec, 2014, Schmidt, 2013). The fire service is not known as a hotbed of organizational change. Many of the organizational practices used have existed for many years. Some of this behavior is due to the relative stability in the environment in which the fire service operated and currently operates (Jick & Peiperl, 2003). When a fire is reported, the fire department responds and extinguishes the fire. The hierarchical structure springs into action and handles the situation. This action was repeated countless times over the past two hundred years. Today, however, the stable environment that characterized the fire service for many years is changing. Fires are becoming less and less common while medical emergencies and a myriad of other calls for service are becoming the order of the day. The hierarchical structure of the fire service is becoming more flat as a specialization in roles requires more leeway in resolving problems (Coleman, 2006). The answer to the evolving fire service may rest in becoming a "learning organization".

The Learning Organization

One of the primary reasons for change within an organization is to create something that did not previously exist. A learning organization is capable of adapting to a changing, challenging environment (Beer, M., Eisenstat, R. A., & Spector, B., 2011). The concept of the

learning organization was introduced to the world by Peter Senge (1990) in his book *The Fifth Discipline.*

According Senge, a learning organization was an organization "where people continually expand their capacity to create the results they desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (p. 3). The learning organization looks outside of itself and sees that it is a part of a much larger collection of people and organizations.

Traditional organizations, including fire departments, took innovation for granted or only took ideas that originated from top management. After all, top-down hierarchical structures catered to this type of thinking. Today, the world is changing and the fire service must change with it. Senge (1990) related that the current times no longer allow for one person at the top of the organization to do all of the learning. This concept may have worked in the past, but the environment in which organizations operate today calls for learning at all levels. Senge distinguished the learning organization from traditional organizations by the mastery of five basic disciplines: systems thinking, personal mastery, mental models, building shared vision, and team learning. Senge believes that systems thinking is the cornerstone of the learning organization (Smith, 2009). Understanding systems thinking helps to put the entire concept of learning organizations into perspective.

Systems thinking is based on the assumption that everything that impacts an organization has an influence on the rest of the environment. This influence is usually hidden from view. The only way to understand the hidden influences is to purposefully make an attempt to understand the whole (Senge, 1990). People who can grasp the understanding that everything interacts and makes an impact on the organization will be better able to make lasting changes. Senge

explained the current situation of most organizations, including the fire service, through the concept of linear thinking.

American organizations are accustomed to finding a problem and then moving directly toward a quick resolution to the matter. This kind of thinking is rooted in the organization that looks only within itself for the sources of its problems. More specifically, American organizations usually look at the other person within the organization as the source of the problem. The problem with this line of thinking is that many problems are more complex than are initially believed (Jick & Peiperl, 2003). These types of problems are what Heifetz and Linsky (2002) termed as adaptive problems. Through the use of linear thinking, organizations are attacking only symptoms, not the root of problems.

Systems thinking relies on looking beyond the local environment and into the system in which the organization operates. Within the fire service, the system involves people and organizations well outside of the corporate limits of the cities. Social issues, political issues, laws and regulations, and financial issues all exist at local, state, and national levels and each plays a part on the learning organization. For many fire departments the concept of looking outside of the traditional organizational boundaries for sources of problems is a foreign concept. Looking both inward and outward to seek cures to problems is difficult. Simply changing one item on a string of problems may alleviate the issue in the short term, but does not take care of the problem in the long term.

In the past, the role of thinking in most organizations rested solely at the top of the hierarchical ladder. In learning organizations, thinking is more diffused. Margaret Wheatley (2006a), in explaining the importance of critical thinking and the use of information in the learning organization stated, “Thinking has been acknowledged as a critical skill, and not just at

higher levels of management. It is now recognized that many more workers need to be able to interpret complex information. Information and thinking skills, that formerly were the purview of the leader, are moving deeper into organizations" (p. 110).

The implication for the fire service is more firefighters will be asked to take a more significant role in decision-making. The traditional role of top-down decision-making may be coming to an end. The end to the old style of management thinking is not going to happen without a struggle. Tradition within the fire service seems to require retaining old ideas that are only given up after a fight (Milan, 2013). The concept of linear thinking is engrained into the psyche of management through centuries of concepts and beliefs.

The concept of linear thinking is not a recent phenomenon. The idea of looking for direct causes and solutions to problems dates back to the Enlightenment and the age of Rene Descartes and Isaac Newton. Wheatley (2006a) used the term "reductionism" to describe the organizational concept of seeking out that which does not work in the system. She described the concept where modern management looks at organizations like a machine that is broken. If the broken part can be located and fixed, the organization will work correctly. This concept evolved from the philosophies of Isaac Newton, who promoted the idea of cause and effect or A leads to B which then leads to C. Rene Descartes (1993) placed his hand on the matter by introducing the concept of rational thinking and breaking problems down into First Principles.

What evolved from Newton and Descartes is a line of thinking that pervades our modern society with the concept of linear thinking and reducing problems to their smallest parts in order to find the solution. This educational philosophy has been taught for centuries. Changing our way of thinking overnight is not going to happen. Our society has been so ingrained with the concept of reductionism that it has impacted our idea of organizational change. Wheatley

(2006a) believes most organizations feel that all that is needed to repair an organization is to find and replace the faulty part and then bring the organization back up to optimal performance levels. Wheatley reports that up to 70 percent of all change projects fail to produce the promised results. The fire service is probably no different than corporate America. If the majority of change projects continue to fail to provide the needed results, where do we look for change? The solution to the problem might be found in a revolutionary turn away from Descartian and Newtonian thinking and a move toward what Wheatley calls the "new science".

The new science describes concepts within quantum physics. The new science takes into consideration Senge's (1990) ideas concerning systems thinking. Systems thinking is a turn away from reductionism. Wheatley (2006a) stated, "a system is composed of parts, but we cannot understand a system by looking only at its parts. We need to work with the whole of a system, even as we work with the individual parts or isolated problems" (p. 139). From a systems perspective, we need to understand that no problem or action can be understood in isolation. This concept is almost the antithesis of the philosophies of Descartes and Newton. This reality also explains why leaders find the adoption of this concept so difficult. The ideas included in the new science are a fundamental change in our concept of learning.

Change is constantly occurring within organizations (Kanter, 2002). The only way to make sense of the changing organization is to understand the changes within the organization. In order to make progress on identifying issues, learning is required (Heifetz, 1994). The learning must take place throughout the organization, not just at the top. As organizations and the environments in which they operate evolve, the systems become more complex. Traditional means of devising and carrying out change programs are becoming more difficult to successfully execute (Orlikowski & Hofman, 1997). The way to better understand the modern organization

that operates in ever-changing environments may be to apply the concepts that are found within the new science.

One area on which Wheatley (2006a) comments is related to chaos theory. Chaos theory proposes that out of chaos comes order. The two, chaos and order, are linked. "A system can descend into chaos and unpredictability, yet within that state of chaos the system is held within boundaries that are well-ordered and predictable" (p. 13). According to Wheatley, without the combination of these two forces, great change is not possible.

The only way to understand the disorder within the chaos is to be able to step back and understand the system in which the disorder is created. If one has a total reliance on reductionism, they are not allowing themselves to pull back enough to see the big picture. This leads to linear thinking. Wheatley (2006b) points to the application of chaos theory in the aftermath of disasters such as Hurricane Katrina. The organizational structures that existed in the disaster areas could not cope with the situation. Within the chaos of the situation, organizations came together to deal with the situation. Out of chaos came order.

How are organizations of both today and tomorrow supposed to handle chaos? One of the great challenges of change is to learn how organizations and people can change faster than the environment in which they find themselves operating (Beatty & Urlick, 1991). Organizations can approach the problem is many ways. Karl Weick (1995), in his book *Sensemaking in Organizations*, approached the problem by addressing how people come to understand complex or unknown situations. In short, people rely upon their past experiences and learning in order to place the new situations into perspective. Because of the rapid changes now occurring, he felt that leadership in the future would be less about decision-making and more about sensemaking. In a rapidly changing, unpredictable world, sensemaking may be the best

idea going for leaders (Weick, 2001). In order for people to make sense within organizations, different ideas must be brought to light. Hierarchical organizations that restrict ideas to come only from the top hinder the ability of that organization to adapt to change.

David Bohm (1996) wrote on the necessity of creating dialogue among people and organizations as a way to solve problems. If thought is restricted within organizations some problems will not be solved. Bohm promoted dialogue as opposed to discussion. In a dialogue, people openly discuss various ideas. The exchange of thoughts is similar to the priming of a pump. A discussion connotes the pressing for the adoption of one person's point of view, thus eliminating other ideas. Hierarchical, autocratic organizations generally promote discussion from the top, not dialogue. Bohm noted that organizations that adopt a flatter organizational structure are more prone to adopt dialogue in an attempt to approach problems.

Again, however, in situations where the rapidly changing environment impacts operations, the traditional hierarchical organization may be paralyzed by an inability to rapidly adapt. The days of Weber's (1947) bureaucracies may be coming to a close. Speed and adaptability may prove to be the key to organizational survival. Hierarchical, top-down organizations may not be flexible enough to enact the rapid change needed to survive.

21st Century Fire Service

How are systems thinking, the new science, and sensemaking going to impact the 21st century fire service? The answer is complex, yet may possibly be found within the scope of changes that have occurred within the fire service over the past several decades. Fire service organizations face change caused by both external and internal forces (Snook, 1988).

Over the years, more and more forces exerted their influence and forced changes upon the organizations. In 2015, the fire service is in the middle of a sweeping metamorphosis of the

role of firefighters. The days of personnel simply being called firefighters may be over. Pressing needs of the modern society call for an increased variety of different types of services to be rendered by public servants, including firefighters. Over the past 20 years, the numbers of fires in America have been reduced. On the other hand, the numbers of responses by fire departments have increased. This increase can be accounted for by the increase in the number of EMS, hazardous materials, and other specialized rescue and service calls (USFA, 2015). Firefighters are now more aptly named emergency response specialists.

Over the past half-century, gradual changes have taken place in most fire departments in the United States. Most of these changes can be classified in three categories: mission, methodology, and technology. Each of these three areas of change caused turmoil within various departments due to the ability, or lack of ability, of the personnel to grasp the change and to move forward. Jick and Peiperl (2003) described three perspectives on change within organizations: developmental change, transitional change, and transformational change. The fire service, with its changes in mission, methodology, and technology, is impacted by all three of these perspectives on change.

Developmental change involves an improvement of what exists within an organization. The improvement of a skill is an example of developmental change. Within the fire service, a push to improve driver skills with a goal to decrease accidents is a developmental change.

"Transitional change is introduced to have an organization evolve slowly. Current ways of doing things are replaced by something new" (Jick & Peiperl, 2003). Steps may be involved in the implementation which requires time to complete. These changes can be simple or complex depending on the plans of management. Within the fire service, an example of transitional change might be the change in the early 1900s from horse-pulled engines to

motorized fire apparatus. The change did not occur overnight and required changing how fire departments operated. The transition did not change the overall mission of the fire service.

Transformational change is created out of the remains of the previous organization. These are sweeping changes that often occur after a disaster and the resulting chaos. Within the fire service, transformational changes occurred within the fire departments in cities when the volunteer forces could not meet the needs of the populations. The volunteer forces collapsed and the career fire departments emerged from the void.

All three of these types of changes have impacted the fire service at some point in time. Changes in the mission, methods, and technology within the fire service are hallmarks of the progress that has been made over the past half century. For the majority of the past two centuries, the primary mission of the fire service was to fight fires. Fire departments were organized and managed in order to meet this mission. The organizational structure, the training, and resources were all developed around serving the mission. Today, as well as in the future, the mission is changing. Advances in technology and methods, as well as a new focus on customer service, have pushed the fire service into new realms of service delivery. The high degree of specialization now calls for personnel who are highly trained and well educated in order to be able to deal with the influx of highly technical equipment that is now beginning to arrive in fire stations all over the country. Many departments are now known as emergency services as opposed to simply fire departments.

In addition to the changes in mission, methodology, and technology, the fire service is also being impacted by several new challenges that must be dealt with in order to survive. The years following the September 11, 2001, attacks brought to light the value of America's fire and emergency services. Another fact that was brought out was the glaring need for equipment

among many fire departments within the United States. For years, many departments struggled to gain access to funding for equipment, training, and personnel. After the attacks, the Federal government opened up its coffers in the form of grants to fire departments in search of money. The stipulation for receiving the funds hinged on complying with regulations set forth by the government. What followed in the next decade were major changes in the tactical operations of many fire departments across the United States.

In an environment where organizations are constantly in need of funding, tying regulatory compliance to the funding is common. The fire service now sees an increase in the number of regulation and performance standards that must now be met. A myriad of performance standards, such as those set forth by the National Fire Protection Association (NFPA), are now being codified by state and local governments. Some of these standards force fundamental changes in the way departments operate (Granito, 2006). From the number of personnel that must man apparatus to the actual design of fire apparatus, fire departments must now adopt multiple new standards in order to stay compliant with, not only the local and state rules, but also with the Federal government, which holds the financial grant purse strings.

Another change that came as a result of Federal funding is an increase in the number of multi-organization operations (Granito, 2006). Throughout the 1900s, a common tendency for local fire departments was to attempt to deal with all problems on a local basis. Large emergencies may have called for neighboring communities to come and assist, but state and Federal resources were generally not called upon. Today, with the increase in the types of specialized services provided by departments and with a much larger Federal financial hand in the operation of departments, large-scale, multi-agency operations are much more common. Statewide mutual aid plans and national response task forces are now common throughout the

United States. These state and national responses required the fire departments to change how they communicated with each other. Formerly, interoperability regarding communications was virtually nonexistent. Today, through new technology, the ability to communicate with a nearly unlimited number of organizations is now possible.

With the pace of change increasing and the ability of hierarchically structured departments to cope with the changes decreasing, some organizations are now moving toward flatter, more responsive organizational structures. This movement is necessary due to the increased use of management techniques that no longer fit the paramilitary style structure of the classical fire service. The result is that many departments now operate with a hybrid structure that retains traditional hierarchical structures for day-to-day operations and utilizes the newer techniques for specialized operations (Coleman, 2006).

The increasing use of task-forces and the implementation of specialized teams such as high and low angle rescue, structural and trench collapse rescue, and hazardous materials response teams calls for focused training. As a result, the person with the best knowledge about the operation may be a junior member of the department. For many departments, placing a junior member in charge of an operation goes against their traditional command structure. Other departments have adopted a flatter, more flexible structure that allows for people with special knowledge to be able to utilize their knowledge within the chain of command.

At this point, the picture of how the fire service is dealing with change begins to take shape. Forward thinking leaders attempt to utilize systems thinking to examine the environment in which they operate. An understanding of Wheatley's concept of the new sciences allows leaders to readapt from a structured response when confronted with the chaos created after

disasters. Through the use of teams, more minds can come into play to enable more ideas to be brought forward so as to better cope with problems and difficult situations.

Change in the fire service does not always come easily. Organizations are made of people. The recipients of change often feel that they are victims of the change movement. They feel as if they are losing control (Jick & Peiperl, 2003). In the past, incidents of major change in the structure or operation of the fire service created tension with many members, especially with those people who were well advanced in their careers. The best example in the past few decades was the introduction of EMS in to the fire service. For many veterans of the fire service, the change in the mission impacted them because, in their mind, they were hired to fight fires, not treat sick people. Many veteran firefighters simply quit or retired. Those firefighters who stayed on in the fire service learned and adapted to the change in mission. Today, EMS is a staple in the services provided nationwide. In the end, organizations cannot make change work if the employees will not accept the change (Jick, 1990). Luckily, many employees do make the changes necessary and adapt. Some people, while possessing the potential ability to succeed with change, are simply terrible at estimating their abilities (Dweck, 2006).

Jick (1990) provided good information for leaders who are planning change programs. Good management of the recipients of change will go a long way to help make the change program more successful. Obviously, some people will complain about everything. Much time was lost in the past by leaders who attempted to cajole these types of employees. Real success comes in identifying those employees who feel threatened and have legitimate misgivings about the changes. These are the people to target for what Jick calls “first aid”. Jick suggests listening, accepting, and supporting will go a long way in bringing these people aboard for the program.

Firefighters are no different than other workers when it comes to change. The fire service of the future will be asked to tackle a wide variety of emergency situations. Luckily, the adaptation of flatter structures and the implementation of the team concept will aid the flexibility needed to safely cope with the problems. With the spreading of responsibility throughout the fire service and away from only the people at the top, system-wide learning is vital.

Here is where the melding of the concepts of the learning organization, systems thinking, and sensemaking come into play. With the rapid and constant changes occurring in the fire service environment, the only way an organization can keep pace is to promote learning throughout its ranks. This learning includes not only technical information, but also general leadership and management knowledge. "The twenty-first century employee will need to know more about both leadership and management than did [their] twentieth century counterpart" (Kotter, 1996, p. 175).

The learning organization is characterized by adaptability and the leaders of such an organization will come to understand the exchange that takes place between leaders and followers (Bass, 2000). Peter Drucker (2006) once wrote, "the purpose and function of every organization, business and non-business alike, is the integration of specialized knowledge into a common task" (p. 140). The fire service is no different. The purpose of the fire service is to integrate the specialized knowledge of many members and of many fields of study to an efficient delivery system that both saves lives and makes the society a better place to live. Much of the new knowledge will require change to the current ways of operating. Much of this change will be dependent upon how the resistance or barriers to change are identified and managed.

Barriers and Resistance to Change

Creating change within an organization is a difficult operation to successfully execute. The resistance to change is not just caused by ignorance or inflexibility on the side of the worker. Resistance is a natural reaction by individuals who desire to protect their concept of self-determination and self-interests (Yukl, 2006). Resistance from within the organization, at some stage in the process, is very likely to occur (Alyn, 2012; Fine, 1986). Chuang (2015) wrote that the study of resistance to organizational change is of vital importance due to the overall impact on change programs. Change creates resistance (Smoke, 1999). Resistance to change must be effectively diagnosed and managed in order to overcome the inevitable problems associated with it (Fine, 1986; Swarnalatha, 2014).

As early as 1950, Alvin Zander (1950) remarked that resistance to change was behavior that was intended to protect a person from the effects of real or imagined change. Within the literature, a common theme is the need to identify the barriers to resistance so that they may be effectively managed (Baker, 1986; Bolognese, 2002; Graen, 2009; Swarnalatha, 2014, Tichy & DeVanna, 1986). Graen (2009) found that in studying public corporations the main resistance to change came from managers at all levels protecting their given areas.

While pressure to change an organization can from both external and internal forces, resistance to change can be found at all levels within organizations (Swarnalatha, 2014). No matter what organization, commitment to change is always uneven among employees (Beer, et al., 2011). Tichy and DeVanna (1986) noted both technical and cultural reasons for resistance to change. Technical reasons included habits, inertia, fear of the unknown, and loss of organizational predictability. Cultural reasons included the way the organizational culture spotlighted the old values and ways that now needed to be changed, the absence of the climate of change, and the lack of receptiveness to new ideas.

Identifying specific barriers to resistance within the literature found varied results. Chuang (2015) found twelve general reasons for resistance to change that managers might be able to explore for ways to reduce the problem. The reason ranged from perceptions of personal loss, the feel of no need to change, the change was doing more harm than good, a general lack of respect for the person or organization asking for the change, poor communication, negative attitudes, lack of input from the workers, perceptions of criticism, the creation of a burden on the workers, bad timing, a challenge to authority, and secondhand information.

Bolognese (2002), related that employees resist change because they must learn something new. This is a defense mechanism, not to be belligerent, but due to the fear of the unknown and their ability to adapt to the new reality. Gary Yukl (2006) reported nine common reasons for resistance to change including lack of trust, the belief the change was unnecessary, the belief the change was not feasible, economic threats, relative high costs, fear of personal failure, loss of status and power, a threat to values and ideals, and resentment to interference. Other reasons for resistance to change included fear of the unknown, mistrust between upper-management and employees, loss of job security, bad timing, and an individual's predisposition toward change (Quast, 2012).

Change is necessary with the fire service in general and, specifically, within the Haltom City Fire Rescue Department. The literature speaks directly about the need for change within organizations, both at the leader and follower levels. By applying what was found in the literature, the hope is that this research will be able to guide the management of the department toward successful change within the organization.

Procedures

In order to effectively gain answers to the five proposed research questions, the study utilized a two-phase research methodology. The first phase involved the distribution of a questionnaire that focused on resistance to change among the Haltom City Fire Rescue Department company officers. The second phase involved conducting personal interviews with the company officers (N=12). For the study, a purposive sample was utilized. In a purposive sample, the researcher selects individual participants because they are particularly informed about a subject (McMillan, 2008). Specifically, the company officers were selected for the study because they are the people on the line implementing the tactics on structure fires.

The instrument selected for the study was developed by Shaul Oreg (2003) and was named the Resistance to Change Scale (RTC). The RTC was designed to evaluate "an individual's tendency to resist or avoid making changes, to devalue change generally, and to find change aversive across diverse contexts and types of change (Oreg, 2001, p. 680). The instrument was developed after the researcher studied other instruments and found they only indirectly examined reaction to change from the perspective of the individual's personality. The researcher contacted Dr. Oreg via email and obtained permission to utilize the RTC in the applied research project. A copy of the email correspondence can be found in Appendix D.

The RTC is a 17-item scale broken down into four sub-scales: (a) routine seeking (RC), (b) emotional reaction to imposed change (ER), (c) short-term focus (SF), and (d) cognitive rigidity (CR). Routine seeking was defined as an inclination to adopt routines. Emotional reaction was defined as the amount of stress and uneasiness induced by change. Short-term focus was defined as the extent to which individuals were distracted by the short-term inconveniences associated with the change. Cognitive rigidity was the frequency and ease with

which people change their minds. The instrument utilized a 6-point Likert scale with the following answer choices: (1) Strongly Disagree as a "1"; (2) Disagree as a "2"; (3) Inclined to disagree as a "3"; (4) Inclined to agree as a "4"; (5) Agree as a "5"; and (6) Strongly Agree as a "6". The more these items are true, the more resistant the person is to beneficial change (Larsen, 2015).

The validity and reliability of the RTC were both considered. "Validity is a judgment of the appropriateness of a measure for the specific inferences or decisions that result from the scores generated by the measure" (McMillan, 2008, p. 144). McMillan listed several sources of validity evidence including (1) evidence based on instrument content, (2) evidence based on internal instrument structure, and (3) evidence based on relations to other variables.

Error is always present in measurement. Therefore, error must be taken into consideration. With instruments that are more reliable, the researcher can develop a more accurate estimate of the variable subject being measured (Mertens, 2005). McMillan (2008) defined reliability as "the extent to which participants and/or rater scores are free from error" (p.149). In order to be useful, data collection instruments must be consistent (Mertens, 2005). Reliability relates to consistency of scores. Internal consistency is the most widely utilized estimate of reliability and is used when the purpose of the instrument is used to measure a single trait. Estimates of reliability are generally reported through the use of a correlation coefficient, also called Cronbach's alpha. The range of a correlation coefficient is between .00 and .99. "If the correlation coefficient is high, say .78 or .85, the reliability is said to be high or good. Correlations coefficients below .60 generally indicate inadequate or at least weak reliability" (p.150). Oreg (2003) reported Cronbach alpha for the entire instrument was .87. Subscale

alphas reported were .75 for the routine seeking, .71 for the emotional reaction, .71 for the short-term thinking, and .69 for the cognitive rigidity.

Prior to the distribution of the survey, an email was sent advising the company officers that a link to the survey would appear in their email account. Each participant was given an implied consent form to read and mark as to whether they agreed to participate in the study (Appendix B). All participants were advised that participation was strictly voluntary, and that all data and information was strictly anonymous (Leedy & Ormrod, 2013). At the time of the distribution of the implied consent form, the researcher answered any questions the participants might have in respect to the study. The research questions were not discussed at this time.

The instrument was entered into SurveyMonkey.com website. The instrument was then sent to the participants' employment email address. Upon receipt of the completed surveys, items 4 and 14 were reverse coded as per the instructions provided by Oreg (2003). The data was then entered into Microsoft Excel. The overall mean of the scale as well as the means of the individual subscales were calculated. Means were calculated for the overall group of participants. While the possibility existed to calculate the means of each individual, this score was not done in this study.

Following an analysis of the results of the survey, the twelve company officers were interviewed with a fixed set of questions designed to determine answers to the research questions. The results of the interviews were then analyzed to determine an overall response to the research questions. The following questions were asked during the interviews of the company officers: (1) What is your opinion on changing to the new fire attack strategy? (2) What level of knowledge would you say you hold regarding the new fire attack strategy? (3) What do you feel are the cultural barriers within the department preventing the overall adoption

of the new fire attack strategy? (4) What do you feel are the structural barriers preventing the acceptance of the new strategy? (5) What do you think can be done to eliminate or reduce the barriers?

All of the interviews were conducted with the company officers while on shift in their stations. Discussions about the questions were limited in order to prevent the researcher from influencing responses. The interviews were structured around the five interview questions that were designed to provide answers for the research questions (Leedy & Ormrod, 2013). The participants were asked to answer the questions with what they truly felt, not with the answer fire administration might want to hear.

Following the completion of the interviews, the responses were reviewed from the notes taken during the process. For each interview question, trends and unique responses were identified. The responses were then compiled and utilized to determine the answers to the five research questions.

The limitations of the study that were noted included the fact that the results that were collected may not be generalized across the entire fire service. This study was very narrow in its structure. Controlling for influences of the participants was another limitation. Controlling talk among the company officers was difficult to control. In addition, the researcher could not find any published work that stated the RTC was previously utilized in a study within the fire service. This fact makes comparison with similar organizations difficult.

Results

Following the completion of the surveys and interviews, the data from each participants' survey (N=12) was calculated and recorded. The results for the RTC as a whole indicated an average resistance to beneficial change (M=3.34; SD=1.15). The RTC utilized a 6-point Likert

scale with the following answer choices: (1) Strongly Disagree as a "1"; (2) Disagree as a "2"; (3) Inclined to disagree as a "3"; (4) Inclined to agree as a "4"; (5) Agree as a "5"; and (6) Strongly Agree as a "6". The four sub-scales with in the RTC were: (a) routine seeking (RC), (b) emotional reaction to imposed change (ER), (c) short-term focus (SF), and (d) cognitive rigidity (CR). Items 1-4 were utilized for the RS score. Items 6-9 were utilized for the ER score. Items 10-13 were utilized for the SF score. Items 14-17 were utilized for the CR score (Oreg, 2003).

The sub-scales were then calculated. The results of the RC sub-scale was slightly below average (M=2.95; SD=1.15). This result indicated the company officers were slightly below average in their routine seeking. When compared to others taking the RTC, they were about average in wishing to stick with normal routines. They did not appear to have very strong ties to routines when compared to the average person.

The ER indicated a mild emotional resistance to change (M=3.63; SD=1.17). The company officers do not appear to feel too stressed in the presence of change, but are not entirely indifferent to it (Oreg, 2003). This response is about average with the overall results of the RTC.

Within the SF sub-scale, the company officers can see some potential long-term benefits of change even though they know they will encounter short-term inconveniences(M=2.94; SD=1.05). This response is also about average with the RTC.

The CR sub-scale indicated the strongest resistance to change (M=3.96; SD=0.84). This sub-scale indicated the company officers had a somewhat higher stubbornness in changing their minds.

The interviews with the company officers revealed a wide array of answers to the questions that were posed. When combined with the RTC scores, the five research questions

were answered. The interviews were conducted between August 3 and August 19, 2015. All interviews were conducted while the company officers were on shift at their respective fire stations.

Research question one asked: (1) What views do the company officers hold toward changing structure fire attack strategies? The CR sub-scale indicated a slightly increased tendency to have increased emotional reaction to change. While the results of the overall RTC indicated the company officers had an average resistance to change, seven of the participants indicated during the interviews that they thought changing to the new fire attack strategy was beneficial. Three of the participants remarked that they had no idea what the new strategy was. As a result, they did not have a view on changing to the new strategy.

Research question two asked: (2) What is the company officers' level of knowledge regarding the new attack strategy? Interview question #2 was designed to determine how much knowledge the company officers had in regard to the new strategy. The responses to interview question 2 mirrored their views on interview question 1. Three of the participants indicated that they had no working knowledge of the new strategy. These responses seemed to indicate the more knowledge the company officers held regarding the new strategy, the more positive views they held regarding the strategy. Four of the participants indicated they had good to intermediate levels of knowledge on the subject, while one stated they were a novice.

Research question three asked: (3) What are the cultural barriers preventing company officers from readily adopting the new fire attack strategy? While the RTC mean showed the participants held an average view on resistance to change, the CR sub-scale had the highest mean score. The CR indicated the participants had a higher than average propensity to not want to change their minds. The answers to both the survey and interviews alluded to the general fire-

fighting cultural barrier of resistance to change and to Heifetz and Linsky's (2003) concept of adaptive change. The answers to the interview answers identified cultural barriers such as "fear", "comfort level", and "tradition". Overcoming fear, comfort level, and tradition will require a change in the thinking and behavior of the company officers.

As a corollary to the results of the RTC, the interviews revealed a cultural barrier within the ranks of the participants. Several company officers noted that the their current fire attack strategy worked well and worked the best for them. This barrier may well prove to be the most difficult barrier to remove due to the fact that an adaptive change is required.

Research question four asked: (4) What are the structural barriers preventing company officers from readily adopting the new fire attack strategy? The answers to this question were revealed throughout the interviews. The structural barrier that revealed itself most often was a lack of training and education. Attached to this barrier was also a lack of communication. Nine of the twelve participants mentioned education, training, and communications. Of all of the interview questions posed to the participants, the responses to this item were the most uniform. The company officers need more education on the implementation of the strategy

The final research question asked: (5) How might the barriers be minimized or eliminated? The answers provided during the interviews covered a relatively broad range of responses. Four of the participants related that communication was a key link to removing at least the structural barriers and possibly some of the cultural barriers. The company officers want to know why the department if wanting to make the change to the new strategy.

The balance of the responses pointed toward the need for more education and training on the subject, but also hinted at the need for buy-in at the battalion chief level across all shifts. One participant also noted that the department needed to be open-minded when it comes to the

subject of change. These responses seem to parallel the RTC sub-scale scores in ER and CR which showed the highest likelihood of stress and uneasiness in response to change and the tendency to not want to change their minds.

Discussion

The fire service is filled with tradition. Alyn (2012) noted that resistance to change is one of those fire service traditions. The results of this study supports this claim, yet change with in the fire service is no different from change throughout any other public service field (Williams, 2007). The RTC survey results indicated the company officers of the Haltom City Fire Rescue Department hold about an average resistance to change when compared to others completing the survey. One fact that should be noted, however, is the researcher could not find any other studies among fire company officers that utilized the RTC. Generalizing the results outside of the department may not be possible.

The strongest sub-scale of the RTC was CR which indicated the company officers were more apt to not want to change their minds on an issue. Yet change, however, requires a changing of minds. The second highest sub-scale was ER which dealt with emotional reaction to change. Attempting to change minds while controlling adverse emotional response is a challenge faced by the management of the department.

When asked what views were held toward changing to the new fire attack strategy, the majority of the company officers intimated that they felt the program would work if it was correctly implemented. The choices in how the leaders of the department implement and lead the change program will have a great impact on the success or failure of the new strategy. Oreg and Berson (2009) remarked that leaders' characteristics influence follower reaction through their choices and what they choose to emphasize. These choices and behavior then become

engrained and are reflected in the organizational culture. All of these actions impact the followers' attitudes and behaviors.

Several times during interviews with the company officers, the participants noted fear of the unknown and doubtfulness in the success of the change program. They noted past attempts at attempting change and several specifically noted the attempted adoption of compressed air foam systems (CAFS) and the failure of its implementation. This barrier was noted by several participants, and casted doubt upon the success of the change to the new fire attack strategy. An important piece of knowledge from this situation had to do with the overall management of the project. Fine (1986) noted that many programs fail due to poor management.

These findings run parallel to barriers to change noted by both Yukl (2006) and Quast (2012). These barriers included: (a) lack of trust in management; (b) the feeling that the change was unnecessary; (c) the followers' predisposition toward change in general; and (c) fear of the unknown. The participants noted each of these barriers at some point during the interviews. The RTC results supported the concept of the followers' predisposition toward change. The management must address each of these barrier in order to have greater chance of successfully implementing the new fire attack strategy.

Much of the potential success or failure of the change program may hinge on management's ability to sell the idea to the company officers. One cultural barrier identified was the common thinking within the department that the current attack strategy was, and is, successful. Teaching a department to obtain and implement new information is a challenge that goes beyond simply flipping a switch and moving in a new direction. The company officers need to learn the importance of critical thinking and the use of that new information (Wheatley, 2006a). The adaptive issue at the heart of the resistance to the change may center on the belief

that the current way the company officer operate at structure fires is the best method available. Adaptive change requires changing the way people think and behave (Heifetz & Linsky, 2002).

Adaptive change typically requires an extended time to come to fruition. A significant cultural barrier noted in the interviews was the belief among the company officers that the current fire attack strategy worked well. While many of the participants noted the potential of the success of the new strategy, a cloud of doubt hangs over the department on the ability of management to successfully introduce and adopt the new fire attack strategy. While doubt exists, the participants provided open views to the potential success of the implementation. Interestingly, these views combined both technical and adaptive approaches to making the change.

The adaptive change involves changing the way the company officers believe, not only about the current strategy, but also about the new fire attack strategy. The success of the implementation will hinge on the ability of management to get the new message across to the company officers in such a way that a new organizational culture is developed. Leaders, specifically transformational leaders, motivate their followers to move beyond their personal orientations at work and funnel the followers' concepts of what is right by leading them to identify a new organizational goal (Bass, 1985).

The technical change that is interconnected with the adaptive is the request from the company officers for an increased amount of training, education, and communication. During the interviews a majority of the participants noted the need for additional training on the new strategy and remarked that they believed the implementation would work if they were told why they were being told to make the change.

The creation of an increased level of communication throughout the department may lead to increased dialog between management and the department. This action not only mirrors what Bohm (1996) proposed as a problem solving method, but also provides an opportunity to identify new issues (Heifetz, 1994). In addition, by introducing new ideas into the department, the hope is the department will become a learning organization as the leaders begin to understand the exchange that takes place between the leaders and followers (Bass, 2000).

Recommendations

Academic research on resistance to change within the fire service is rare. This scarceness provided ample opportunity for the researcher. The fire service as a whole is a fertile field for this type of research. The current study provided a foundation upon which other researchers can build continuing studies of resistance to change within the fire service

The current study focused on the company officers currently employed by the Haltom City Fire Rescue Department. Across the nation, many populations of career firefighter and company officers exist in numerous municipalities. The populations vary greatly in their demographic make-up, economic strength, and mission. While many similarities exist, generalizing the findings of this study outside of the test population may not be appropriate. The current study was designed to be generalized with the population from the sample was drawn.

The results obtained from this study indicated the management of the department needed to focus on improving educating and communicating better with the company officers. The roadblocks identified included cultural barriers such as the overall resistance to change within the company officers, as well as, a tendency to not want to change their minds once a decision was made, and a lack of trust in the ability of manage to successfully implement the new strategy

based on past failures. In addition, structural barriers included a perceived lack of education on the subject and a lack of communication.

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Appendix A

Interview Select Answers

#1: What is your opinion on changing to the new fire attack strategy and why?

A. Provides uniformity across the department
B. I have no idea.
C. If it helps us do the job better, we should do it. It is hard because we got into bad habits over 20 years.
D. Does not feel like we are changing. We have been here a while, but not utilized.
E. I am in for the change, but is everyone on the same page?
F. This is not new. We have been doing it since the late eighties. I think it is a good thing.
G. I really do not know what PPA is, to be honest.
H. I have not seen it practiced. I have not had the opportunity to see it.
I. If it is coordinated correctly, it will work.
J. If it has proven to work, then we should do it. We would be foolish if we did not.
K. I think it catches us up with technology and new data on firefighting.
L. I don't have one. I do not know what it is.

#2: What level of knowledge would you say you hold regarding the new fire attack strategy?

A. The chief wants us to set fans before we go in.
B. None, we have had no discussions on the subject.
C. We have the bug-to-light mentality. Pull hose first.
D. I would say I have an intermediate level of knowledge.
E. I feel very confident with it and have seen it used.
F. I have heard about it for years, but we don't practice it. Knowledge verses skill.
G. I do not know about PPA.
H. I have very little knowledge about PPA.
I. I have read articles on the subject.
J. It seems like common sense. It makes sense to me. I am a novice at best.
K. I have a pretty good base foundation although I have not had the opportunity to use it.
L. I do not have any knowledge about it.

#3: What do you feel are the cultural roadblocks within the department preventing the overall adoption of the new fire attack strategy?

A. What is wrong with the way we are doing it now? We have a comfort level.
B. The old way is engrained to not change anything. People are resistant to change.
C. We have a hose-to-the-fire mentality. It is hard to accept the fan is going to save a life.
D. It is different from the norm. Not as predictable an outcome.
E. Willingness to admit to limitations. Willingness to admit what you need to learn.
F. It is something new. This will take time. Must have a plan. If it is not broken, why fix it?

G. Leaders still feel that they do not have to tell us anything. In the past we were told what to do, not to think. We all want to know why we are changing.
H. It is a tradition that we have learned (old way of doing things). Fear
I. Old school of thinking-similar to CAFS. We need to incorporate statistics.
J. Get guys to slow down and look at what is going on. Read smoke, 360, vent opening, be patient. The benefits will outweigh the risks.
K. Tradition and change in general. This is how we have always done it.
L. There is a lack of knowledge and training.

#4: What do you feel are the barriers that can be easily fixed in regard to the new strategy?

A. We need to implement the program and spell it out.
B. We need better education and training with live fire.
C. We need to practice it. Start with the commanders.
D. We have educational barriers. We need more classes that can teach the science behind it.
E. The three battalions need to work together. They need to train on the program.
F. We need training with testing. We all need to get involved.
G. We need more communication.
H. We need to work at educating the officers.
I. We need to incorporate it on every fire to get it in our mind.
J. We need more manpower.
K. We need clear communication as to what would need to happen. Explain how the puzzle fits together.
L. We need more training. It would explain why we are doing it.

#5: What do you think can be done to eliminate or reduce the barriers?

A. Let us know what we are doing and why.
B. People are closed minded. People need to find a mindset and validate what they are doing. We need a competence and comfort level.
C. We need to talk about it, discuss it.
D. Experience with the strategy leads to more understanding.
E. One person could give information to all three shifts and monitor the results.
F. We need to be in agreement from top to bottom. Get everyone on board. We need to train, equip, and have manpower.
G. We need to get buy-in at the lower management level.
H. Make sure policies are followed.
I. We need to be open-minded and have a willingness to change.
J. We need to a have more respect for each other's position and skills. We need more teamwork and respect each other up and down.
K. Education is important. We have the physical tools. We need the educational tools.
L. We need better communication.

Appendix B

WAIVER OF SIGNED CONSENT

TITLE OF RESEARCH PROJECT
Identifying barriers to change: What is preventing the acceptance of the new fire attack strategy?

PURPOSE OF THE STUDY
You are being asked to participate in a research study conducted by Charles Napp, a National Fire Academy Executive Fire Officer student and Deputy Chief for the Haltom City Fire Department. The study examines resistance to change among company officers. This study will contribute to the researcher's completion of the Executive Fire Officer program.

RESEARCH PROCEDURES

Once all of your questions about the survey have been answered to your satisfaction, you will be asked to check the consent form either YES or NO. Answering YES means you agree to participate in the survey. This study consists of a survey that measures fire officer resistance to change. The survey will be completed at SurveyMonkey.com and will be followed up with an interview.

TIME REQUIRED
Participation in this study will require approximately 15 minutes of your time.

ANONYMITY OF PARTICIPANTS
The participants in the study will remain anonymous. At no point will names be attached to any response in the study.

RISKS
The researcher does not perceive more than minimal risks involved in this study.

BENEFITS
Possible benefits from the study will be the identification of potential barriers to change within the department.

GIVING OF CONSENT
I have read this consent form, and I understand what is being requested of myself as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. The researcher provided me with a copy of this form. I certify that I am at least 18 years of age.

1. Do you agree with the consent form?

- Do you agree with the consent form? Yes, I agree with the consent form.
- No, I do not agree with the consent form.

Appendix C

Listed below are several statements regarding one's general beliefs and attitudes about change. Please indicate the degree to which you agree or disagree with each statement by selecting the appropriate number on the scale next to it. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. Your responses will be kept in absolute confidence.

Statement	**Strongly disagree**	Disagree	**Inclined to disagree**	**Inclined to agree**	**Agree**	**Strongly agree**
1. I generally consider changes to be a negative thing.	1	2	3	4	5	6
2. I'll take a routine day over a day full of unexpected events any time.	1	2	3	4	5	6
3. I like to do the same old things rather than try new and different ones.	1	2	3	4	5	6
4. Whenever my life forms a stable routine, I look for ways to change it.	1	2	3	4	5	6
5. I'd rather be bored than surprised.	1	2	3	4	5	6
6. If I were to be informed that there's going to be a significant change regarding the way things are done at work, I would probably feel stressed.	1	2	3	4	5	6
7. When I am informed of a change of plans, I tense up a bit.	1	2	3	4	5	6
8. When things don't go according to plans, it stresses me out.	1	2	3	4	5	6
9. If one of my chiefs changed we perform our job, it would probably make me feel uncomfortable even if I thought I'd do just as well without having to do extra work.	1	2	3	4	5	6
10. Changing plans seems like a real hassle to me.	1	2	3	4	5	6

Statement	**Strongly disagree**	Disagree	**Inclined to disagree**	**Inclined to agree**	**Agree**	**Strongly agree**
11. Often, I feel a bit uncomfortable even about changes that may potentially improve my life.	1	2	3	4	5	6
12. When someone pressures me to change something, I tend to resist it even if I think the change may ultimately benefit me.	1	2	3	4	5	6
13. I sometimes find myself avoiding changes that I know will be good for me.	1	2	3	4	5	6
14. I often change my mind.	1	2	3	4	5	6
15. I don't change my mind easily.	1	2	3	4	5	6
16. Once I've come to a conclusion, I'm not likely to change my mind.	1	2	3	4	5	6
17. My views are very consistent over time.	1	2	3	4	5	6

Appendix D

From: Charles F. Napp [mailto:fnapp@haltomcitytx.com]
Sent: Thursday, August 1, 2015 3:18 PM
To: oreg@huji.ac.il
Subject: Resistance to Change Scale

Dr. Oreg,

My name is Charles Napp and I am currently enrolled in the National Fire Academy's Executive Fire Officer program at Emmitsburg, Maryland. I am conducting an applied research project on resistance to change within the fire service and am wanting to utilize your RTC instrument. Would it be possible obtain your permission to use the instrument in my study?

Thank you for your consideration.

Sincerely,

Charles F. Napp CFI, PhD

Deputy Fire Chief/Fire Marshal

Haltom City Fire Rescue

Haltom City, Texas

Please feel free to make use of the scale for your research.

Shaul Oreg

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