

EXAMINING THE USE OF KNOWLEDGE MANAGEMENT TECHNOLOGY IN A  
SMALL NONPROFIT TO ATTAIN ORGANIZATIONAL GOALS

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## ABSTRACT

People working for nonprofit organizations today have many responsibilities, from planning fundraisers to organizing volunteers. For daily tasks, the employees and volunteers of nonprofits must have access to necessary information. This is vital to the success of the organization and to its mission. With limited financial and human resources, a nonprofit must be able to share information effectively in order to accomplish organizational goals. This is especially true for small nonprofits. Recent research has focused on knowledge management technology and its ability to provide an efficient, low-cost way to share information to a wide range of people within a nonprofit. Using interviews with three key groups, this study examines the knowledge processes of a small animal rescue 501(c)(3) and provides a practical explanation of the uses of knowledge management and related technology for the organization.

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## DEFINITIONS

*Knowledge*: information acquired through first-hand experience or education

*Tacit knowledge*: implied knowledge that may be hard to explain and is simply understood by the holder

*Explicit knowledge*: knowledge that is clearly defined and easy to organize and share

*Knowledge management*: the efficient control, collection, organization, and manipulation of information within an organization to make it useful to members

*Volunteer*: an individual who gives freely of their time to Concho Valley PAWS on a regular or irregular basis

*Board member*: an individual who sits on the Concho Valley PAWS Board of Directors

*Foster*: someone who volunteers for Concho Valley PAWS to hold a dog in their home before the dog is adopted out from the organization

*Small nonprofit*: As defined by Matzkin (2008), this is a nonprofit with fewer than 50 staff members and volunteers

*Web 2.0*: Internet technology characterized by interactivity between websites, online tools, and users



## INTRODUCTION

### **Knowledge management**

Nonprofit organizations differ drastically from a traditional corporate and business model, where the primary goal is profit. Therefore, their means to achieve their goal, which differ based on the cause, will be varied. When applied to nonprofits, the topic of knowledge management becomes partially convoluted. There were over 1.5 million registered nonprofit organizations in the United States in 2011 (Pettijohn, 2013). Many nonprofits in the United States are small, with few full- or part-time employees, and rely on volunteers to contribute time and resources. Pettijohn (2013) reports that nonprofit volunteers gave over 12.7 billion hours of service in 2012. Due to the wide variation in factors affecting operations, knowledge management is a difficult topic to study in the social sector.

In business, it may be possible to find a knowledge management model that works for many companies with, for example, fewer than 25 employees; this model might even be scaled to operate efficiently in larger companies. But a model that works for one small nonprofit organization may not work for many, due to disparate factors like the number of volunteers, problem scope, geographic area, city size, and municipal laws and guidelines related to the issue.

This project explores knowledge management in nonprofit organizations by completing a knowledge audit of a local animal rescue nonprofit to understand how staff, volunteers, and board members share information. Interviews were conducted with members from these three groups, and a knowledge management solution that could address the knowledge needs of the organization was developed.

## **Concho Valley PAWS**

Concho Valley Pets are Worth Saving, or PAWS, is a 501(c)(3) nonprofit formed in 1961. The mission of the organization is “to end the euthanasia of all adoptable pets by providing the Concho Valley with low cost spay and neuter services, quality pet adoption programs, and educational services” (Concho Valley PAWS, 2013). PAWS is an animal rescue focused on San Angelo and the surrounding area and has a yearly budget of approximately \$250,000. PAWS receives funding from state and local grants and fundraisers set up by the organization.

The organization has two full-time employees: an executive director and an administrative assistant. The administrative assistant started working with the organization in 2007. She now handles correspondence with donors and members, shopping for supplies, and banking. The administrative assistant also schedules volunteers. The executive director completes a variety of tasks, from training and helping volunteers to doing radio interviews and completing the financial reporting and accounting for the organization. She also writes grant applications for PAWS and helps process applications when needed. The organization relies on many volunteers to complete its work every day.

The Board of Directors of Concho Valley PAWS has approximately 10 board members at any one time, though this number varies depending on how many join and resign. The maximum number of directors, according to the by-laws, is 21 (Concho Valley PAWS, 2013). Each member is required to “own” a project or be an officer, making this a “working board.” Board members are elected for 3 year terms, though they may resign as desired. Student representatives from the Angelo State University Honors Program are elected for 1-year terms.

The general public adopts dogs and cats from the organization. Animals are taken from the animal shelter, which is funded and managed by the City of San Angelo. PAWS utilizes a foster system, where someone keeps the dogs in their homes until each is adopted. Fosters bring the dogs to adoption events twice monthly, so the community can interact and meet each one. Adoption events are held at Sunset Mall or a local pet store like Petco or PetSmart. Posters in the PAWS office provide information about each dog for the community, and an interested person can request to meet a dog if interested. The organization has over 50 fosters as of April 2014 who receive food and supplies from PAWS. While individuals can submit an adoption application at any time, many are submitted during adoption events.

Concho Valley PAWS has one primary location: an office in Sunset Mall. They moved a majority of their operations here in August 2010. The PAWS staff keeps in constant communication with fosters to make sure they are aware of all adoption events. The mall location also houses three offices, where the PAWS staff and volunteers complete administrative and secretarial work for the organization.

The office in Sunset Mall houses most of the cats for the organization. They are held in four separate cat apartments, as well as cages in the main lobby area. There is also a quarantine room for cats that are recovering or may be too young for the organization to adopt out. This makes it much easier for the public to meet the cats, who are always in the mall office. The apartments and cages are cleaned out daily by volunteers.

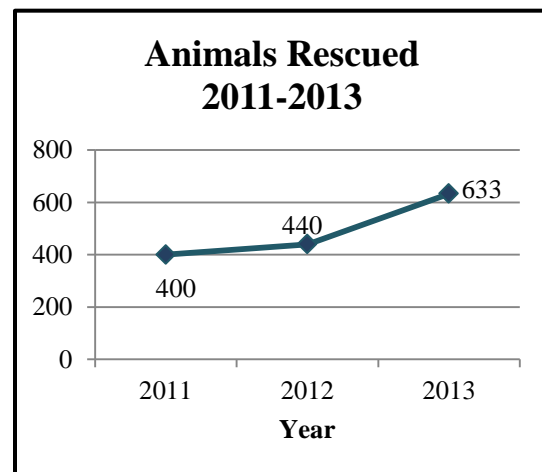
PAWS also owns a building on 14<sup>th</sup> Street in San Angelo, which is currently up for sale. The building once housed the organization's primary office and adoption facilities, though the mall office is now used. Remodeling the facility would be prohibitively expensive

due to structural issues as well the presence of asbestos in the building, though the building has proven useful in the past in emergency situations requiring additional space. When fires broke out in 2012, pets from the affected areas were housed in these facilities until the families could recover and return to their homes.

The organization uses three primary types of applications. Foster applications are for individuals who would like to sponsor and foster a dog for the organization. Volunteer applications are for those who would like to help the organization by aiding at events and in the office. Volunteers must pass a background check before they can start. Adoption applications are for those in the community who want to adopt an animal from PAWS. Applicants must include references and information on past crimes on the application. Volunteers or staff members process each application before it is approved or denied. This includes calling personal references, completing a background check if applicable, and possibly conducting a short interview with the applicant.

### Current situation

As seen in Figure 1, Concho Valley PAWS rescued 633 pets in 2013, a 44% increase over the previous year. The San Angelo Animal Shelter euthanizes over 9,000 animals each year. They have stopped publicizing monthly figures on the number of animals euthanized.



**FIGURE 1: Animals rescued by PAWS, 2011-2013**

Currently, three animal rescues operate in Tom Green County: Concho Valley PAWS, Critter Shack, and Angels for Animals. In 2013, animal rescues adopted 323 cats and

dogs from the San Angelo City Shelter. This represents 26% of total adoptions from the city shelter (S. Villarreal, personal communication, April 30, 2014). Although PAWS faces competition from these organizations, it is the largest in terms of budget and thus must continue to fundraise and maintain relationships with donors and stakeholders in order to continue operations.

### **Author's relationship with PAWS**

The principal investigator served as a board member of Concho Valley PAWS during the research phase of this project.

## LITERATURE REVIEW

### **Knowledge management in nonprofit organizations**

In the past, a distinct difference existed between a nonprofit and a for-profit organization. According to Kipley, Lewis and Helm (2008), that difference has, in recent years, become less distinct. For-profit organizations are now pushed to accomplish social good whereas nonprofit organizations have become somewhat profit-seeking enterprises albeit while still serving community needs (Hume & Hume, 2008). With the increasing ubiquity of information technology, the transfer of knowledge and knowledge management systems is now a subject of interest to the nonprofit community.

Much research has been conducted on knowledge management in nonprofits over the last decade. The research focus has been on how nonprofits can create social value for society using knowledge management and how knowledge management can increase access to information in the organization (Huck, Al, & Rathi, 2011; Matzkin, 2008). It is difficult to define a “correct” way to develop and implement knowledge management strategies, because of certain organizational differences, including culture, management, employee relationships, and communication (Lettieri, Borga, & Savoldelli, 2004; Chan & Chao, 2008). These differences are exacerbated in the nonprofit sector, where organizations differ in many aspects, most importantly their goals and their chosen means to achieve them.

Lettieri et al. (2004) recognized the difficulty of creating a broad strategy to achieve nonprofit organizational goals. Therefore many studies focus on a specific subset of nonprofits, whether they be delineated by country or sector (health, children, etc.). Nonprofits also face limited financial and human resources and are responsible to a variety of groups that demand a maximization of impact and a minimization of resources used. Some of

these organizations include the grant-making groups, philanthropic foundations, and the Internal Revenue Service.

One topic discussed in the existing literature is the fact that knowledge management can be a source of public validation for an organization (Kipley et al., 2008; Hackler & Saxton, 2007; Osili, Hirt, & Raghavan, 2011). If an organization does not look like it is doing everything in its power to increase its efficiency, donors may become disheartened and look for other, more resourceful organizations. There are a large number of nonprofits to choose from when thinking of contributing money to the nonprofit sector (Hackler et al., 2007). This competitive environment has created a new kind of aggressive culture in the nonprofit world.

Currently, there is little practical research on how small non-profits with less than 5 employees can use knowledge management to advance organizational goals. There are many differences in research methods and geographic areas. In addition, much of the research has focused on making strategic recommendations. While this may be best for larger nonprofits, it will not always be helpful to small nonprofit organizations due to the fact that their methods of knowledge collection are fairly informal, with little need for a strategic change. Huck et al. (2011) is one source that offers valuable real-world suggestions for a small nonprofit.

One method of consideration for examining knowledge management in a nonprofit organization is the knowledge audit, an attempt to model an organization's flow and sources of knowledge. Knowledge audits are used to examine knowledge management systems in a variety of organizations. Huck et al. (2011) uses it to offer real-world, tool-based recommendations. These work well for small nonprofits, as opposed to strategic recommendations for larger organizations. Another study describes a logical process for

using a knowledge audit and determining the channels of knowledge flow within the organization (Perez-Soltero, Barcelo-Valenzuela, Sanchez-Schmitz, Martin-Rubio, & Palma-Mendez, 2006). The interpretation of the knowledge audit offered by Perez-Soltero, et al. (2006) is relevant to research on any organization. Other researchers used a variety of further methods to reach their conclusions. These additional methods include statistical and numerical analysis (Matzkin, 2008), a theoretical approach (Hume et al., 2008; Kipley et al., 2008), and website examination (Irving & English, 2010).

The research methods within the knowledge management field vary, most likely due to the preference and needs of particular authors. Some researchers analyzed surveys, but even their methodologies within the surveys differed. While Matzkin (2008) analyzed his own knowledge management survey (collected from 106 nonprofits in Peru), Hackler et al. (2007) used a 2001 information technology survey by the American nonprofit organization Gifts in Kind International, totaling 1,572 responses. It is important to the current field of research to note the national differences in these surveys, with one covering Peruvian nonprofit organizations and another covering nonprofit organizations in the United States. These provide an interesting contrast, with Peruvian nonprofits seemingly lacking in information technology. Additional research could be done on a smaller scale, possibly focusing on the local or state level. Some researchers looked at specific nonprofits to identify a practical knowledge management approach for the social sector (Huck et al., 2011).

The literature supports several conclusions relating to the adoption of knowledge management in nonprofits. Huck et al. (2011), Hackler et al. (2007) and Kipley et al. (2008) agree that nonprofit organizations need to look at multiple facets of their organization before deciding on a single approach to adopting information technology, but researchers disagree



on the most important aspects to consider. Huck et al. states that the nonprofit organization must adopt technology suited for its needs and organizational structure. Hume et al. (2008) argues that there is a need for an organizational plan, a “planning framework,” before the adoption of knowledge management technology. Hackler et al. (2007), by exploring knowledge management from a donor’s point of view, comes to the conclusion that the most important element needed by a nonprofit organization is some kind of assistance from institutions knowledgeable about knowledge management. Generally, this assistance will include some type of information on how a nonprofit organization can best use knowledge management technology. These institutions are likely to come from the business community. Alternatively, Kiple et al. (2008) argues that organizational culture plays a large role in the adoption of knowledge management systems. The importance of management and board viewpoints on information technology and knowledge management is a vital part of the decision-making process when it comes to knowledge management technology. This is especially true in small nonprofit organizations. In order for the effective adoption of knowledge management to take place, leaders must be open to technology and willing to deal with change.

It would also be interesting to use different methods of data collection and analysis. Knowledge audits identify types of knowledge needed by an organization, sources of knowledge, channels through which knowledge flows, gaps in this knowledge transfer, and “knowledge sinks” and “knowledge pools” (Huck et al., 2011). A knowledge sink is a place where knowledge is shared but not utilized. A knowledge pool is an untapped source of knowledge. By completing a knowledge audit, researchers are able to further study knowledge management’s relation to volunteer management, fundraising, donor relations,

and other areas. Research examining specific issues within nonprofits (such as those stated previously) is scarce, and anything to further these areas would be relevant to the nonprofit sector. If examining many nonprofits, it may be helpful to use a variety of methods. Interviews and surveys are somewhat reliable, and surveys offer a relatively quick way to gather information. In any case, more research and analysis into the nonprofit use of knowledge management and technology is needed.

This research indicates that, at least in the United States, further analysis of knowledge management in small nonprofits is needed. There is also little research indicating whether nonprofits in a small city differ from those elsewhere in their use of knowledge management technology. Many different strategies for using knowledge management in the nonprofit sector are suggested. A knowledge audit of small nonprofits would offer a practical guide to managers in how to best utilize knowledge management technology in their current situations. The study investigates how a small nonprofit's intake and output of knowledge affects their use of technology and how they can utilize knowledge management technology to further organizational goals. This will contribute to an analysis of the larger question of how technology in general is used by nonprofits and other organizations to realize the organization's objectives.

### **Technology in nonprofit organizations**

Nonprofits today face many challenges. From volunteer issues to funding sources, nonprofits are constantly striving for maximum organizational efficiency in a changing environment. Information technology, and knowledge management specifically, is recognized as a valuable tool for any nonprofit organization. Hackler et al. (2007) and Kipley et al. (2008) point out that a nonprofit will fall behind other organizations if it fails to

properly utilize these resources. This is important to note as it affirms that information technology will continue to be a part of the modern world, especially the for-profit and nonprofit sectors. They also point out that information technology has changed the way a donor sees an organization, with nonprofit organizations who properly utilize these resources gaining positive attention (Zorn, Flanagan, Shoham, 2010).

A large collection of the current research in the field of knowledge management in nonprofit organizations focuses on the problems associated with integrating knowledge management technology (Huck et al., 2011; Hume et al., 2008). Matzkin (2008) recognizes that technology and its uses have been an important factor in the current interest in knowledge management, as the use of technology to achieve knowledge management goals in nonprofit organizations is relatively new and complicated by the relative lack of resources in nonprofits. Problems arising from knowledge transfer have been identified (Huck et al., 2011; Hume et al., 2008; Matzkin, 2008).

There is little evidence that suggests a practical approach to using knowledge management effectively in nonprofit organizations. Huck et al. (2011) is a good starting point, but the sample size was small (five interviewees) and focused on one organization. Data was also collected in one Canadian city. The other prominent research in the area examines different types of nonprofits and makes strategic recommendations (Hackler et al., 2007). Further research could examine the challenges facing a small nonprofit in the United States, and afterwards, make practical suggestions of how to solve each issue. It could also examine the similarities and differences between the use of knowledge management in a small Canadian nonprofit and knowledge management's use in a small American nonprofit.

An important factor to consider is the medium of information transfer, as this will determine the importance of knowledge management technology to particular nonprofits. This could be anything from Internet-based resources, like blogs, instant messaging services, and e-mail, to face-to-face communication. One of the prominent sources of information transfer for small nonprofits is the immediate transmission of information via one-on-one communication (Huck et al., 2011). Through additional analysis, the simplified mediums used by small nonprofit organizations could prove to be a barrier to nonprofit management's decision to adopt knowledge management technology.

It is important to note the massive changes in information technology and their impact on technology usage in nonprofits. Smartphone technology has become widespread among the general population, with 35 percent of US adults owning a smartphone in 2011. That figure rose to 56 percent in 2013 (Smith, 2013). If a business is not currently using cloud technology, it is behind the curve. If a company isn't trying to utilize Big Data concepts, it may be sacrificing competitive advantage. Historically, many technological changes have made their way into the social sector after development in the private sector. As the cost of these tools decreases and scalability increases, nonprofit organizations can utilize them to accomplish organizational goals and solve societal ills.

### **Volunteer motivations and organizational culture**

Previous research has found that an emotional connection with a cause will often lead to dedication to an organization. Degli Antoni (2009) identified a number of articles that examine volunteering and its effect on "civicness, generalized trust, trust in public institutions, and tolerance, free riding, and optimism" and built upon previous research by exploring the connection to personal relationships as social capital. Numerous articles have

identified a variety of intrinsic motivators to voluntary work including psychological needs (Ryan & Deci, 2000) and career and personal growth (Clary & Snyder, 1999; Dolnicar & Randle, 2007). Other articles have examined external motivation factors to volunteer with organizations. Degli Antoni (2009) researched the social aspect of nonprofit volunteering, finding that working with nonprofits often leads to growth in personal relationships among volunteers.

Gagné (2009) examined the role of motivation to share knowledge among members in an organization. She analyzed communication methods and human resource theories to propose a model for knowledge sharing. Gagné's ideas on employee behavior could be applied to volunteers in nonprofit organizations. While volunteering for nonprofits fulfills a variety of personal needs, commitment to a common cause would make them receptive to knowledge sharing.

An important factor in nonprofits is their compromise-based culture (Horras, 2008). Volunteers carry out much of the work in nonprofits, and communication between volunteers and staff members is crucial when it comes to carrying out the mission of a nonprofit. This leads to the necessity for teamwork, which is facilitated by peer-to-peer connections and communication. Even though the information flow in an organization may be from staff to volunteers, a large amount may take place between volunteers.

The existing literature on knowledge management provides a rationale for additional research. Studies on particular types of nonprofits, including animal rescues, is relatively scarce and spread among several countries. The diversity of the nonprofit sector gives rise to many possible studies related to the use of technology in nonprofits as well as volunteer motivations and specific organizational goals, and this study looks to add to the existing

literature by providing pragmatic solutions to common knowledge management issues in a small nonprofit organization.

## RESEARCH METHODS

To complete this research, six knowledge elements identified in several studies were analyzed. These knowledge elements are defined in Table 1.

<b>Types</b>	Types of knowledge needed to support and operate the organization
<b>Sources</b>	Sources of knowledge within the organization
<b>Channels</b>	Means by which knowledge is shared within the organization
<b>Gaps</b>	Disparities between knowledge sources and needs
<b>Sinks</b>	Places where knowledge is shared but not utilized
<b>Pools</b>	A source of knowledge that is untapped

**TABLE 1: Knowledge elements in an organization**

### Selection of a nonprofit organization

Concho Valley PAWS was selected because the author's past experience with the organization established contacts that would facilitate effective data gathering and personal insights that would inform the research and writing process.

PAWS has a long-standing commitment to San Angelo and a significant impact among the animal rescues in the area. They have a well-established organization, though PAWS has undergone some noteworthy changes in recent years. The executive director joined the organization in 2009, shortly before the organization moved its primary facilities to Sunset Mall. Her previous work was in nonprofits, not animal rescues, and she was the executive director of the local Big Brothers, Big Sisters organization before joining Concho Valley PAWS.

### Knowledge audit methodology

To perform the knowledge audit, interviews were conducted with staff members, board members, and volunteers. The author's personal knowledge was used to develop

interview questions, collect information, and examine the organization’s knowledge processes.

Before each interview, the interviewer read a statement about what knowledge means for the purpose of this research to ensure consistent data collection. This statement and a complete list of interview questions appear in Appendix A and Appendix B. In Appendix B, the groups are denoted at the end of each question (V – volunteers, B – board members, S – staff) and some of the questions are based off ones provided by John Huck at the University of Alberta, Canada (personal communication, January 23, 2014).

As indicated by Table 2, interviews were completed with the two staff members, three volunteers,

<b>Groups</b>	<b>Number</b>	<b>Years of service</b>
Staff members	2	12
Board members	3	20
Volunteers	3	5

and three board members. Fosters were not interviewed because a majority of their information needs are filled by the executive director and the administrative assistant. Table 2 indicates that volunteers often do not stay with the organization for extended periods of time. This is for a variety of reasons, including time constraints, family issues, and new jobs. Volunteers who were currently active within the organization and who could thus provide the best, most accurate information on the operating procedures of the organization were chosen. The board members offered a range of information that proved useful to my research, primarily because they had twenty years of collective service to the organization.

**TABLE 2: Interviewee information**

The interviews lasted about 20 to 30 minutes and were transcribed for analysis. At the time of research, the organization had over 20 active and inactive volunteers. PAWS also uses volunteers from two large organizations in the area: Angelo State University and



Goodfellow Air Force Base. Temporary volunteers from these agencies account for a significant portion of PAWS volunteers. PAWS also uses court-ordered volunteers who work on an as-needed basis. This study does not concern itself with these individuals because of their temporary, part-time nature.

Observations during primary events, notably during multiple adoption events and during a daily cleaning of the cat apartments in the PAWS mall office, supplemented the interviews. This offered direct information on how the members, particularly volunteers and the staff, spread knowledge and allowed direct viewing of how members of the organization teach and learn from each other. Examination of key documents in the organization, including a final year 2013 report as well as the by-laws of the organization, show how the board and others learn material from the staff and serve as a primary channel of information to public stakeholders of the organization.

## KNOWLEDGE AUDIT RESULTS

This section explains the knowledge needs, sources, channels, gaps, sinks, and pools within Concho Valley PAWS identified through the knowledge audit and offers additional discussion on the findings. A knowledge map is provided at the end to indicate the location and sources of organizational knowledge. In Chapter II, various solutions to these problems are discussed.

### **Types of knowledge needed**

Research established three distinct groups of knowledge needs, which are the types of knowledge needed to support and operate PAWS: *office assistance*, *administrative*, and *animal care*. Primary examples are listed below, though the lists are not exhaustive. *Office assistance knowledge* is that which is used to run and manage the mall office. Some primary examples include how to answer the phones and questions, how to deal with the public, and how to deal with the mall administrators.

*Administrative knowledge* is the information needed to run the nonprofit organization. It consists of policies and procedures; goals and objectives of organization (mission and vision); writing grants and fundraising; PAWS programs (“Second Chance” adoptions, etc.); and characteristics of animal rescues. In addition, information on how the organization operates, such as using QuickBooks, reporting to the IRS, State of Texas, and the Board of Directors, processing applications, and complying with legal requirements, falls into this type of knowledge.

*Animal care knowledge* refers to any necessary information about the animals. Some examples include general information regarding dog and cat breeds, proper care for all types

of animals (including difficult or aggressive pets), and best practices for fosters.

Additionally, information specific to PAWS pets and operational procedures, such as intake guidelines and cleaning the cat apartments, falls into this category.

Volunteers primarily use *office assistance knowledge*. They answer the phones and often serve as the “face” of the organization. All groups consistently use *animal care knowledge* when working in the organization. The primary users of *administrative knowledge* are the staff and board members. A vast amount of *administrative knowledge* lies with the executive director, including information on how to use QuickBooks and how to work with public officials. Some of this knowledge is distributed among the other staff member or in the Board of Directors.

### **Sources of knowledge**

Generally, *office assistance knowledge* and *administrative knowledge* come directly from the staff. The ability to intake animals is determined by how many they adopt out, so in this constantly changing environment, immediate knowledge is highly preferred. A staff member is the best source for this information and therefore must be constantly available to answer questions through phone, email, or physically at the office. If not, volunteers in the organization may find answering these questions about animal intake and the current situation challenging.

The most common source of knowledge was experience. Each interviewee mentioned their past experience with animals as the foundation for working with rescue animals. Experience was also important for *administrative knowledge*. The executive director retained helpful knowledge from her background in nonprofits. The officers of the Board of Directors

also learned through trial-and-error about presenting the financials and organizational operations to the other board members.

Additionally, volunteers with rescue pets, which sometimes have psychological issues, are also valued as sources of beneficial knowledge. These volunteers will have the experience needed to deal with difficult pets. Fosters who take on dogs will continuously gain experience and are likely to have pets of their own. The people volunteering with PAWS are inclined to have some type of previous experience with animals, as shown by the interviews with each group.

Those with animal rescue experience were identified by three interviewees as having particularly useful knowledge. An animal rescue is unique in its operation. It is not an animal shelter, as those are often run by a government entity. However, it also varies from other nonprofits in that staff must work with both people and animals every day.

Volunteers often bring various types of knowledge with them about specific animal breeds or behaviors based on their past experiences. Those that have worked in a professional setting or a nonprofit also bring an understanding that PAWS is not just an animal rescue. The agents of the organization must also consider that PAWS has a “business” side; they take in revenues and then spend that money on programs. Sometimes, they can’t take animals due to legal, operational, or financial issues. Volunteers who understand this are particularly valuable.

The staff and board members also attend conferences on animals and animal rescues. These provide information on recent and updated practices in nonprofits and animal rescues. They have attended webinars (web-based seminars) about various related topics in the past.

The organization could lose this knowledge if the board or staff member leaves the organization.

The Internet, television, and books are common sources of knowledge and information for the volunteers and staff. Veterinarians also offer advice and serve as an audience for questions. All the volunteers stated that the staff of PAWS are extremely knowledgeable about all things animal rescue. The staff also have the most information about the pets PAWS has at any specific time. Board members can also offer advice about the various PAWS programs and policies.

### **Knowledge channels**

Channels are the means by which knowledge is shared within the organization. Most of the information and direction in the organization flow from the executive director. Her leadership provides the organization with its primary means of saving animals and raising funds. From her, the Board of Directors receives information about the organization's status.

Much of the information in the organization flows to the volunteers, who then carry out various *office assistance* and *animal care* tasks, like cleaning the cat apartments and answering phones. Much of this information is already catalogued in resources like a volunteer notebook, with information about dealing with the public, answering questions over the phone, and dealing with pets, and a shared documents folder on office computers to allow for quick access to *office assistance knowledge*. The executive director and administrative assistant work together to complete each *administrative* task and to help the volunteers and fosters understand their role.

Technology is used throughout the organization, though at a basic level. Many volunteers, the staff, and board members use smartphones and cell phones to keep in touch

and signal emergencies. Phone contact is only used for immediate situations and must be followed up soon after if it is to achieve desired results.

Email is used at every level of the organization. It is the primary method of communication between the board members but is often unreturned. Email is also used between the staff and board to send documents and information pertaining to board meetings and PAWS events. Information about upcoming events and PAWS programs is sent to many volunteers via email. Volunteers that do not have an email address have asked that the PAWS staff call them to distribute this information.

### **Knowledge gaps**

Several gaps, or disparities between knowledge sources and needs, exist in the knowledge architecture of the organization. The staff, board members, and volunteers were quite open to discussing problems they see in the organization. They did not hesitate to point out gaps in the organization's information flow and usage of technology.

Volunteers who do not have email have asked that the staff call them to remind them when adoption events and PAWS fundraisers are held. This is not possible due to time constraints, creating a significant gap as volunteers are a vital resource at the adoption events. They talk to the public, handle animals, and answer the phones. Some adoption events have a skeleton crew; there are barely enough people to run the event smoothly. So, by not being able to disseminate information effectively to all volunteers, PAWS is losing a valuable source of support.

Several other knowledge gaps exist between staff and volunteers. One is proper procedure for keeping the cat apartments clean. There is a specific method that volunteers have to follow when cleaning the cat apartments, and there are certain situations that warrant

additional attention. For example, if one cat has a respiratory or other disease, precautions are needed to prevent transferring this to another cat apartment. So if the cleaning supplies in a diseased apartment are used in another cat apartment, this could potentially cause the disease to spread. It is therefore vital to understand the current situation; over the long term, this saves the organization time and resources.

Another knowledge gap concerns identification of animal breeds. The American Kennel Club recognizes almost 180 breeds of dogs. This represents an extreme depth of information and not every volunteer will be able to immediately identify every dog. Additionally, most of the PAWS cats are located at the mall office and also represent a diverse population. The executive director will know the breed or mix of the animal as they pull them from the shelter, but if the executive director is not available and the pet information sheet is missing, then the task falls to the volunteer on hand to answer any question about a breed. Each volunteer has access to a computer with Internet and can thus look up the breed. This information may not be easily available and a more effective solution is proposed in Chapter II.

The board of Concho Valley PAWS is disconnected from the organization and specifically the daily operations. One board member pointed out that they do not have access to a list of volunteers and have to go to the staff to find that information. This poses a major organizational issue, as lack of communication between volunteers and board members amounts to a separation between the leaders of the organization and those that complete the essential tasks that keep PAWS functioning. This distance leads to a profuse amount of responsibility on the staff, who must keep up with constant requests for information.

Several board members also pointed out that some individuals, particularly volunteers and fosters, are not sure who to contact for certain information or simply don't have access to information they need. The volunteers and fosters go directly to the staff when they have questions. Problems associated with dissemination of required information are not easily solved, especially in a nonprofit environment with limited resources.

### **Knowledge sinks**

Sinks are places where knowledge is shared but not utilized. Information about "how the nonprofit is run" represents a significant sink for the organization. Volunteers, like the staff, want to save as many animals as possible. But they do not understand that the organization cannot take every animal. The volunteers make promises to the public that PAWS cannot fulfill. Each volunteer and foster go through training, and information about the organization and about dealing with the public is disseminated but rarely utilized by the group of fosters and volunteers. They get caught up in the mission and, with limited information, tell the public something that is not true. PAWS can only take in a certain amount of pets at a given time. The person with that information may not be available. It is important that the fosters and volunteers understand the animal rescue side of PAWS and the nonprofit side of PAWS as well.

Additionally, the administrative assistant serves as an important support staff for the organization and is a key go-between for the volunteers and board members. Her management is vital to the adoption events and daily activities of the organization. She often teaches the new volunteers about their various duties though this information may not be utilized immediately. Thus an important knowledge sink is the administrative assistant's information on *office assistance* and its utilization by the volunteers.



Email, a common channel for information flow, has become a type of sink for the organization. Because email from the staff to the volunteers often remains unreturned, the staff cannot get an accurate number of volunteers who will be at adoption events when volunteers are needed most. The Board of Directors also uses email to communicate. These emails also go unreturned and create a problem for the board president and the executive director, who must send many emails in order to solicit a response.

These sinks are not entirely the fault of any one group. They can be attributed to the general lack of resources (financial, personnel, and time) of the organization. The board members are each volunteers and have outside jobs and responsibilities that demand much of their time. Due to budget constraints, the staff are stretched thinly

### **Knowledge pools**

A significant pool, a source of knowledge that is untapped, is the amount of information the executive director holds. It became clear from each group interviewed that she serves as the foundation for all information in the organization. Some of this information is tacit, like her knowledge about public relations. Other information, like grant-writing and nonprofits, is explicit and could therefore be written down. Her knowledge is vital to the success of the organization, and PAWS would have a hard time replacing the director. It would be difficult to maintain its current level of adoptions and outreach if she left the organization.

While general information about each dog and cat is posted in the mall office, the volunteers who watch the front of the office often do not know specific information and must then ask the staff. Potential adopters may want to know about an animal, and sometimes the volunteers do not have the desired information. The staff members are adept at keeping all

the relevant facts about each animal. Nevertheless, this essential information “pools” with the staff, who then must take the time to help each volunteer and member of the public.

Volunteers who serve PAWS will learn this information over time, but animals are constantly taken in and adopted out. They cannot properly serve the organization without appropriate knowledge of the primary cause of the organization – the animals.

### **Additional findings**

Some interviewees identified another type of knowledge: “how to give up a pet” after the foster period ends. While they labelled it as “knowledge,” I determined it to be more along the lines of a personality trait. Pure knowledge is not the only thing involved while working with animals in a rescue environment. Typically, the volunteer and fosters have a connection to these creatures, probably because of past experiences and pets. They are passionate about animals and the problem of animal overpopulation.

Pets can become attached to owners quickly, even temporary ones, especially after being in an animal shelter with little attention, and dogs in particular are very apt to show their affection. Animals stay with PAWS anywhere from a few weeks to half a year or longer. While the “knowledge” on how to give up pets is useful, this is different for each individual. Many current fosters have a pet they once fostered and decided to adopt. In order to continue helping PAWS (and alleviating the overpopulation problem), these fosters have to be able to create some sort of emotional barrier to avoid separation problems. This is certainly a useful trait, though it is disregarded as “knowledge” in this analysis.

That being said, this trait could be common amongst general nonprofit volunteers. The societal ills that nonprofits are so often involved in evoke strong emotions for many people. Volunteers who work with, for example, children or disabled persons have to find

some way to disconnect, even though they care deeply for the cause. The same is true for those who work with animals.

An interesting correlation can be drawn from volunteers and their dedication to a cause. Volunteers are valued simply for their work in the organization. Nevertheless, those with the most enthusiasm are most useful to the organization and noticed by the staff and other volunteers. Analysis of the interview data shows certain key words that were used by a few interviewees. The following questions were used to investigate volunteer motivations.

- What qualities do you see in those you would consider to be the best volunteers?
- What level of trust do you see between volunteers?
- What is your idea of success, with regards to your work with PAWS?

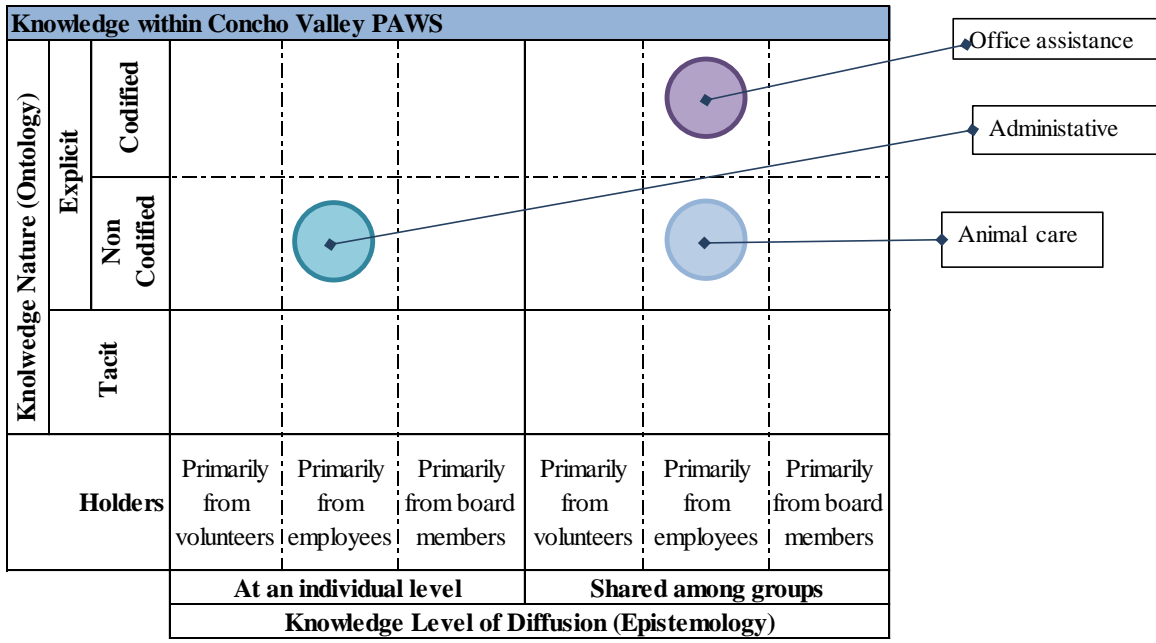
These questions drew a variety of answers, though most focused on the intrinsic motivations for volunteering with PAWS. A main goal of the organization, and thus its members, was to increase responsibility of people with pets in the area. Education is key when seeking to reduce animal overpopulation. They also stated that they strive to make San Angelo a “no-kill” city, where the shelter, city, and organization work together to ensure that every adoptable pet finds a home.

It is clear from the interviews that PAWS members value those who are “caring” and “compassionate.” These qualities, important for those working with animals, were identified by three of the interviewees. Six of the interviewees cited dependability and responsibility as important characteristics in volunteers. The relevant literature on the subject suggests that dedication to a cause is an important factor in the usefulness of a volunteer.

The staff pointed out that they do not have time to deal with personal “drama” among volunteers. The organization takes effort from many people, and volunteers have to realize that they are there to work. Some court-ordered volunteers utilized by the organization

imagined that working with PAWS would be playing with pets, but there are many tasks that must be completed. The staff does not have time to argue with volunteers or force them to work, and they may be sent home. That being said, some court-ordered volunteers proved to be among the best the organization has.

It is important to view these findings in light of the fact that there are two paid staff members. Volunteers, board members, and fosters rely on the staff members for most of the information needs of the organization, and most of the organizational knowledge flows down from the employees. Figure 2 shows the types of knowledge in the organization relative to the location of that knowledge, similar to the knowledge map seen in Lettieri et al. Note that each circle represents the largest portion of a specific type of knowledge. Most of the knowledge is explicit, meaning it can be codified and shared easily. However, a majority of all three types of knowledge is located among the staff members, of which there are only two. The organization has 10 board members, many volunteers, and over 50 fosters at the time of research, yet the staff is tasked with juggling the information needs of each of these groups. This represents a major concern for the organization. If one of those staff members left, it would represent a major challenge to the organization to continue operations due to the loss of a large amount of organizational knowledge.



**FIGURE 2: A knowledge map of Concho Valley PAWS (April 2014)**

## **RECOMMENDATIONS AND IMPLEMENTATION**

Each of these recommendations was conceived based on the knowledge gaps, sinks, and pools identified earlier. Low-tech, Web 2.0 solutions to the problems plaguing Concho Valley PAWS are proposed and an updated knowledge map of the organization is offered in the concluding section of this report.

### **Creation of a knowledge network**

The organization should create a knowledge network, which is a collection “of individuals and teams who come together across organizational, spatial and disciplinary boundaries to invent and share a body of knowledge” (Pugh & Prusak, 2013). In this day and age, this network can be easily supported by social media. Social networking tools are well-suited for PAWS’ needs. Because of the nature of PAWS, immediate knowledge and information is valued over other types. It is for this reason that Facebook offers an excellent resource for the volunteers, fosters, and board members of PAWS.

Any organization, business, nonprofit, or otherwise, can use Facebook for their needs in a few ways. PAWS is advised to set up a Facebook group. Note the difference between a Facebook group and a Facebook page. A Facebook page, which PAWS has already, is most often a public space, where users can interact with a different company or association. By “liking” a page, a user will receive updates from the page. PAWS uses their Facebook page effectively, posting photographs and status updates about animals and events. They have also used the page to run successful marketing and fundraising campaigns in the past. A Facebook group can be private or public, but it is often used for a very specific purpose – to

communicate among users about a topic. Users must ask to join a private Facebook group and an administrator must approve them before they can post or see posts.

I propose the organization create two groups – one for all volunteers and one specifically for fosters. The groups offer a low-cost and effective way to share information in an environment where many have access to Facebook and the Internet via their mobile phones and personal computers. In a report published in the first half of 2013, Smith stated that approximately 156 million people in the United States owned smartphones. Smartphones come with the ability to access the Internet as well as applications, both of which can provide a vast amount of information. Volunteers can also access Facebook and could immediately respond, no matter the time of day or their physical location.

Fosters may also be a part of the volunteer Facebook group. The foster group will share information on best practices as well as anything immediate that fosters may need, such as someone to feed their pets while they are away. It is possible to add documents to the group, but these groups work well for immediate communication and short conversations. The volunteer group will share information on pets, best practices, updates on the mall location, and various PAWS facts and policy changes. Having this resource will contribute to the overall readiness and preparation of the volunteers and will offer an immediate communication tool. The staff and Board of Directors can also join these pages and contribute.

These groups would be a possible solution to some of the communication problems plaguing PAWS. A group would be one way that PAWS volunteers could communicate amongst each other about working with the organization. This group would also increase the social interaction among volunteers in PAWS. The fosters could trade information and would

have a way to immediately contact other fosters if they have an emergency (they need someone to take or feed their pets on short notice). The Facebook group would allow the staff to communicate directly with many volunteers, who could then confirm or deny their participation in an adoption event.

These Facebook groups would help reduce the bottleneck of going through a staff member for all information needed. Information about a pet or resource would be immediately available to each and every volunteer. They would also have the option to ask an immediate question. In addition, the board members could communicate directly with volunteers on important issues, creating a lasting connection between the leadership and the volunteers.

### **Appoint a volunteer coordinator**

It is obvious from my research and previous experience that the organization simply does not have the financial resources to hire a volunteer coordinator, either part-time or full-time. I propose appointing a volunteer or board member to the position of volunteer coordinator. Note that “volunteer” here means anyone giving up time or resources with no additional financial compensation, including fosters, board members, and volunteers. So this coordinator would handle communication between a variety of individuals.

The volunteer coordinator’s primary responsibilities would be to:

- Create and maintain two private Facebook groups: one for fosters and one for volunteers
- Post to Concho Valley PAWS Facebook about events, fundraisers, and updates
- Update and ensure integrity of information on the PAWS wiki



- Send emails (as needed) to update fosters and volunteers on the latest news from PAWS, including events, fundraisers, and trainings
- Connect with board members as needed on projects and updates
- Develop strategy for the best way to communicate with separate groups

Operational funding may become available in the future, but immediate action on the part of the board and staff to create this position is needed. This individual could do a lot of work remotely and thus would not have to physically sit in the PAWS office. One possible resource for PAWS is a university student from Angelo State University. Students studying animal science or related majors have the required skills and might welcome the experience to serve in an animal rescue. They might also be able to receive academic credit for the experience, meaning PAWS would not have to pay the student.

Something already being discussed among the Board of Directors is the creation of a permanent “volunteer coordination” committee. This committee, made up entirely of board members, would implement initiatives and agree to keep track of volunteers and fosters. The committee would make recommendations to the organization on the best use of volunteers. Now is an appropriate time for the organization to begin consolidating certain tasks into permanent, unpaid positions such as this one so that the organization can remain effective and increase adoptions.

### **Record administrative duties**

The executive director and the Board of Directors should create a plan to codify and organize notes and detailed summaries of the executive director’s duties and responsibilities. This is primarily made up of *administrative knowledge*. The knowledge map shows that a

large amount of organizational knowledge is held by the staff. As stated in Section I, some of this will be implicit knowledge, something she knows that cannot be summarized.

The issue is not necessarily one that must be immediately resolved, though it is important for the preservation of the nonprofit should the executive director decide to leave the organization. It is clear from each interview that all groups – board members, volunteers, fosters, and the other staff – rely on her for information. There may be an added benefit. With knowledge written out, the executive director could hand off some of her duties to board members or volunteers. This will also help the Board of Directors to ease its reliance on the executive director. In a nonprofit environment, it is vital to retain knowledge in the organization despite changes in personnel.

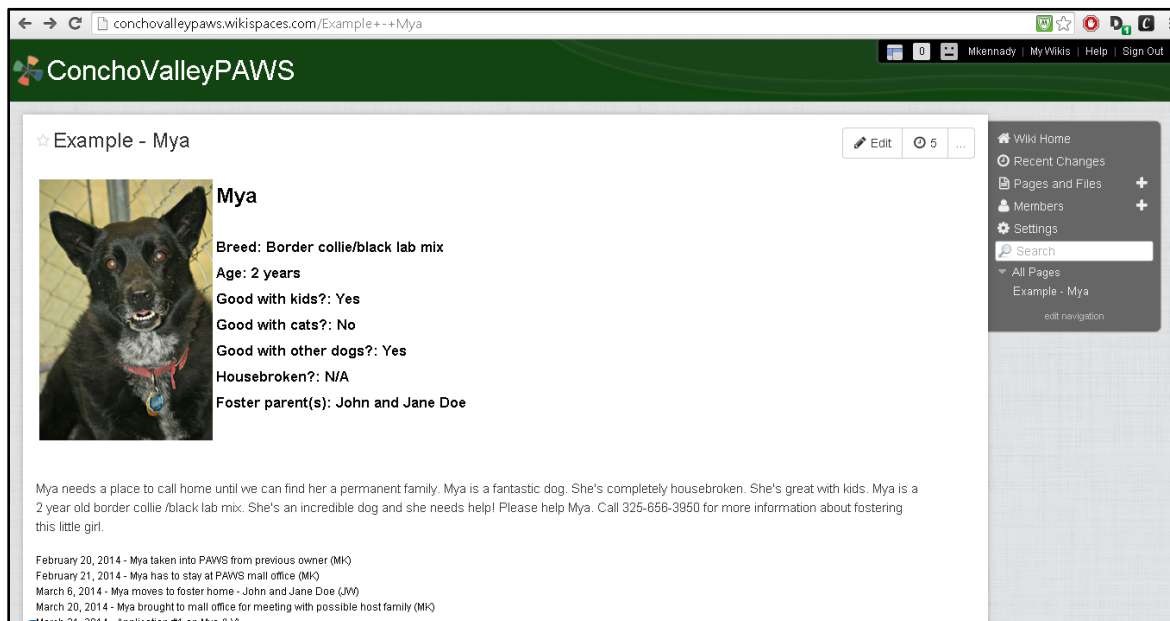
This recording of duties could take much time, particularly from the executive director, who may find it difficult to complete these tasks effectively. Nonetheless, a structured process, whereby the executive director periodically sits down with members from the board to go over certain duties, may work best for the organization. The treasurer will deal with the financials, QuickBooks, and reports to various government institutions (including the yearly Form 990). The secretary will handle fundraisers and writing grants. The president will deal with all other valuable information, including any information on foster best practices and how to communicate with city and mall officials and local media outlets. With this method, the executive director will team up with a board member to create a report that could be used by the nonprofit for years in the future and will ensure PAWS' success even after she leaves.

## Create an organizational wiki

Lastly, creating of a wiki could significantly benefit the organization. A wiki is a collaborative source of information and editable by anyone in the organization.

Wikispaces.com offers many tools to create a free wiki. With this wiki, which can be easily created for free on the Internet, a single account could be set up for volunteers who can update the wiki as needed. Each staff member would have an account and board members may also like to have their own account, depending on their technology prowess.

The wiki could hold all three types of knowledge needs, though it may be most useful for tracking information about animals and their intake. The volunteers and fosters might post information about best practices. The knowledge posted on the blog would be somewhat long-term, depending on the length of time a pet stays with the organization, and could be easily changed as the organization develops. Wiki posts can be deleted and created as needed. Figure 3 illustrates an example of a wiki post.



**FIGURE 3: Example wiki post**

PAWS should be wary of the reliability and time commitment of the wiki. Because volunteers are able to access the wiki, they may unknowingly put false information on the wiki. The information must be constantly monitored by someone with a high level of knowledge of all aspects of the organization, including processes and animals. A problem arises if incorrect or incomplete data is listed on the wiki. A staff, board member, or the volunteer coordinator may be the best option to serve as a gatekeeper, though they must be technologically savvy and willing to put in the required amount of time to ensure that the data on the wiki is up-to-date and accurate. The organization should ensure that it can provide the necessary resources before implementing the wiki.



As the knowledge map indicates, most of the knowledge in the organization is explicit and codified, a key goal for any organization's knowledge management strategy. The employees remain in charge of most of the knowledge in the organization, but this information can also be shared via the knowledge network and the wiki, thereby taking some of the work involved off of the staff. The administrative knowledge is written down, and the organization is able to operate more efficiently and effectively due to its proper management of knowledge.

This study has demonstrated how a small nonprofit can balance the knowledge needs between paid staff and unpaid volunteers and board members and use technology to solve knowledge management issues in the organization. The topic of volunteer motivations is an interesting concept that has been explored extensively in the past. Further research might look at motivations and knowledge sharing in an environment with paid nonprofit leaders. Because the study was done in a small organization with only two staff members, a comparative study might test whether information and knowledge sharing are affected by a larger amount of paid staff. Applying the knowledge audit methodology to specific nonprofit types or goals would offer an interesting analysis of human nature and motivation factors in the social sector. Further studies could explore intrinsic and extrinsic motivations, though the sample size would likely need to increase.

It would be interesting to further divide the volunteers into two separate groups in future investigations. These groups would consist of volunteers who work with a nonprofit over and under a specific amount of time per week. Further defining these groups might give different insights into the knowledge management problems facing a nonprofit organization, which also depends on the structure of the organization and its reliance on volunteers.

## WORKS CITED

- American Kennel Club (n.d.) *Breed Matters*. Retrieved from <https://www.akc.org/breeds/>
- Chan, I., & Chao, C. (2008). Knowledge Management in Small and Medium-sized Enterprises. *Communications of the ACM*, 51 (4), 83-88.
- Clary, E., & Snyder, M. (1999). The Motivations to Volunteer: Theoretical and Practical Considerations. *Current Directions in Psychological Science*, 8 (5) 156-159.
- Concho Valley PAWS. (2011). *By-laws of Concho Valley PAWS* (Effective November 10, 2011). San Angelo, TX.
- Degli Antoni, G. (2009). Intrinsic vs. Extrinsic Motivations to Volunteer and Social Capital Formation. *Kyklos*, 62 (3), 359-370. Retrieved from Wiley Online Library.
- Dolnicar, S., & Randle, M. (2007). What Motivates Which Volunteers? *Psychographic Heterogeneity Among Volunteers in Australia*. *Voluntas*, 18 (2) 135-155. doi: 10.1007/s11266-007-9037-5
- Gagné, M. (2009). A Model of Knowledge-Sharing Motivation. *Human Resource Management*, 48 (4) 571-589. doi: 10.1002/hrm.20298
- Hackler, D., & Saxton, G. (2007). The Strategic Use of Information Technology by Nonprofit Organizations: Increasing Capacity and Untapped Potential. *Public Administration Review*, 474-487. doi: 10.1111/j.1540-6210.2007.00730.x
- Horras, T. (2008) Knowledge Management and the Nonprofit Sector. In Purdue University, *Knowledge about Knowledge* (168-172). Rutgers – The State University of New Jersey.

- Huck, J., Al, R., & Rathi, D. (2011). Finding KM solutions for a volunteer-based non-profit organization. *VINE: The Journal of Information and Knowledge Management Systems*, 41(1), 16-40. doi: 10.1108/03055721111115539
- Hume, M., & Hume, C. (2008). The Strategic Role of Knowledge Management in Nonprofit Organisations. *International Journal of Nonprofit and Voluntary Sector Marketing*, 13(2), 129-140. doi: 10.1002/nvsm.316
- Irving, C., & English, L. (2010). Community in Cyberspace: Gender, Social Movement Learning, and the Internet. *Adult Education Quarterly*, 61(3), 262-278. doi: 10.1177/0741713610380448
- Kipley, D., Lewis, A., & Helm, R. (2008). Achieving strategic advantage and organizational legitimacy for small and medium sized NFPs through the implementation of knowledge management. *Business Renaissance Quarterly*, 3(3), 21-42. Retrieved from Business Source Complete.
- Lettieri, E., Borga, F., & Savoldelli, A. (2004) Knowledge management in non-profit organizations. *Journal of Knowledge Management*, 8 (6), 16-30. doi: 10.1108/13673270410567602
- Matzkin, D. (2008). Knowledge Management in the Peruvian Non-profit Sector. *Journal of Knowledge Management*, 12(4). doi: 10.1108/13673270810884318
- Osili, U., Hirt, D., & Raghavan, S. (2011). Charitable Giving Inside and Outside the Workplace: The Role of Individual and Firm Characteristics. *International Journal of Nonprofit and Voluntary Sector Marketing*, 393-408. doi:10.1002/nvsm
- Perez-Soltero, A., Barcelo-Valenzuela, M., Sanchez-Schmitz, G., Martin-Rubio, F., & Palma-Mendez, J. (2006). Knowledge Audit Methodology with Emphasis on Core



- Processes. European and Mediterranean Conference on Information Systems, 2006. Costa Blanca, Alicante, Spain, July 2006.
- Pettijohn, S. (2013). *The Nonprofit Sector in Brief: Public Charities, Giving, and Volunteering, 2013*. The Urban Institute. Retrieved from:  
<http://www.urban.org/UploadedPDF/412923-The-Nonprofit-Sector-in-Brief.pdf>
- Pugh, K., & Prusak, L. (2013). Designing Effective Knowledge Networks. *MIT Sloan Management Review, Fall 2013*. Retrieved from  
<http://sloanreview.mit.edu/article/designing-effective-knowledge-networks/>
- Ryan, R., & Deci, E. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist, 55* (1) 68-78. Doi: 10.1037/0003-066X.55.1.68
- Smith, A. (2013). Smartphone Ownership – 2013 Update. Pew Research Center. Retrieved from [http://www.pewinternet.org/files/old-media/Files/Reports/2013/PIP\\_Smartphone\\_adoption\\_2013\\_PDF.pdf](http://www.pewinternet.org/files/old-media/Files/Reports/2013/PIP_Smartphone_adoption_2013_PDF.pdf)
- Zorn, T., Flanagin, A., & Shoham, M. (2011). Institutional and Noninstitutional Influences on Information and Communication Technology Adoption and Use Among Nonprofit Organizations. *Human Communication Research, 1-33*. doi:10.1111/j.1468-2958.2010.01387.x

## WORKS CONSULTED

- Given, L., Forcier, E., & Rathi, D. (2013). Social Media and Community Knowledge: An Ideal Partnership for Non-Profit Organizations. *ASIST 2013*, Montreal, Quebec, Canada. November 2013.
- Kong, E. (2008). The Development of Strategic Management in the Non-profit Context: Intellectual Capital in Social Service Non-profit Organizations. *International Journal of Management Reviews* 10 (3) 281-299. doi: 10.1111/j.1468-2370.2007.00224.x
- Kong, E. (2010). Intellectual Capital and Non-profit Organizations in the Knowledge Economy. *Journal of Intellectual Capital*, 11 (2), 97-106. doi: 10.1108/14691931011039624
- Liebowitz, J., Rubenstein-Montano, B., McCaw, D., Buchwalter, J., Browning, C., Newman, B., ...the Knowledge Management Methodology Team (2000). Case Study: The Knowledge Audit. *Knowledge and Process Management*, 7 (1), 3-10.
- Lucky, S., Albrecht, B., & Rathi, D. (n.d.) Inter-organizational Knowledge Management Within an NGO Community: A Pilot Study of a Unique Knowledge Sharing Structure.
- Rogelberg, S. G., Allen, J. A., Conway, J. M., Goh, A., Currie, L., & McFarland, B. (2010). Employee experiences with volunteers. *Nonprofit Management and Leadership*, 20 (4), 423-444.
- Ruuska, I., & Vartiainen, M. (2005). Characteristics of knowledge sharing communities in project organizations. *International Journal of Project Management*, 23 (5), 374-379.

Salipante, P., & Aram, J. D. (2003). Managers as knowledge generators: The nature of practitioner-scholar research in the nonprofit sector. *Nonprofit Management and Leadership, 14* (2), 129-150.

Soakell-Ho, M., & Myers, M. D. (2011). Knowledge management challenges for nongovernment organizations: the health and disability sector in New Zealand. *The Journal of Information and Knowledge Management Systems, 41* (2), 212-228. doi: 10.1108/03055721111134826

Sultan, N. (2012). Knowledge management in the age of cloud computing and Web 2.0: Experiencing the Power of Disruptive Innovations. *International Journal of Information Management, 33* (1), 160-165.

## APPENDIX A: INTERVIEW STATEMENT

If you have any questions at all during the interview or about a question or concept, please do not hesitate to ask. Remember your individual answers will not be shared with any one individual working with PAWS; each response will be aggregated to draw conclusions and make recommendations based on the entire knowledge audit. I am looking to gather information on characteristics of PAWS, but before we start, I would like to give you some background the types of information I am looking for.

Knowledge may sound like jargon to you now, so I would like to provide some contextual information about knowledge, which some have called “know-how.” Know-how could be described as a refined and useful knowledge. For example, let us say you wanted to learn how to cook. You could go to the library to check out some cookbooks; this would provide you with information about cooking. But those books could not be your only resource if you truly wanted to learn to cook. You would have to practice and improve over time. This experience would help you learn how to cook, though you might also use other resources like the Internet and friends to improve your skill. These experiences would allow you to learn information that is applicable to cooking a wide range of dishes.

Now let us say you become an expert cook/chef. You might decide to pass on your know-how by writing a book. You could write down and record many things, but there would be plenty that you simply could not put into words. These would be things you knew intuitively and thus they might be difficult to write down. But you could show others in direct interaction by directly teaching people.

So, I am interested in the ways that the organization, PAWS, finds and shares knowledge and information. When thinking about knowledge, think of a broad definition. Knowledge is refined information or simply understanding something or 'know-how'. Note that I am interested in the knowledge about caring for animals and the knowledge about how does PAWS, the organization, run with four defined groups – staff, board members, volunteers, and fosters?

## APPENDIX B: INTERVIEW QUESTIONS

1. What kinds of knowledge do you see volunteers and staff sharing with each other about the operations of PAWS (whether that be you and a volunteer, you and the other staff member, the other staff member and a volunteer)? (VBS)
2. How about specific aspects of animal care or other topics? (VBS)
3. Among the volunteers, board members, and fosters, what characteristics do those that are knowledgeable about the organization and animal care have? (VBS)
4. How is knowledge shared amongst the volunteers, fosters, and board members? (VBS)
5. Where does your knowledge of caring for animals and animal behavior come from?  
(VBS)
6. What percent of your time is spent on animal-related activities (working directly with animals)? (VS)
7. What percent of your time is spent on organizational functions (processing applications, answering phones, etc.)? (VS)
8. How long have you worked with PAWS? (VS)
9. How did you learn about the operations of PAWS? (VBS)
10. What are some sources of knowledge in the organization? (VBS)
11. What pieces of technology are used among the three groups to communicate and store information? (VBS)
12. What kinds of knowledge or information do you see volunteers or fosters having a need for? (BS)

13. What are the reasons for this barrier? Do you see any other barriers to knowledge sharing in the organization? How would you fix the situation? (BS)
14. If you could think of a perfect system for sharing knowledge and skills, what would it look like? (VBS)
15. What qualities do you see in what you would consider to be the best volunteers? (VBS)
16. What level of trust do you see between volunteers? (VBS)
17. What is your idea of success, with regards to your work with PAWS? (BS)
18. On a scale of 1-10, how satisfied are you with your experience volunteering with PAWS?  
Why? (V)