PARTICIPANTS’ PERCEPTIONS OF THE BARRIERS TO ADOPTING INNOVATION: A CASE STUDY OF THE AKR-PWR CENTENNIAL WORKSHOP

A Thesis
Presented

to the Faculty of

California State University, Chico

In Partial Fulfillment
of the Requirements for the Degree

Master of Arts

in

Recreation Administration

by

Susan Barnett

Fall 2010
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ACKNOWLEDGMENTS

The formation of my thesis would not have been made possible without the assistance of several individuals whom invested their time, energy, and resources into this study. Without the guidance of Deanne Adams, my thesis may have never truly taken shape. To Brad Bennett, John Morris, and the planning committee of the AKR-PWR Centennial Workshop, thank you for allowing an investigation of your workshop to occur.

Written words cannot express my appreciation for my thesis committee, Dr. Laura McLachlin and Dr. Emilyn Sheffield. The countless hours of discussion and review of materials in coffee shops, on the phone, on long car rides, and in offices impacted not only the study but also my overall development as a professional in leisure studies. To Dr. Jim Fletcher, Dr. Morgan Geddie, and the entire Department of Recreation and Parks Management at CSU, Chico for being a supportive front for all of the graduate students in the department.

Most importantly, the love and support from my husband, Dan, and my family and friends were a driving force to always strive for something better. Thank you.
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The purpose of this study is to understand participants’ perceptions of the barriers of adopting innovation, specifically action items, within six months of a strategic planning workshop. The Alaska Region and Pacific West Region of the National Park Service collaborated on a strategic planning workshop, Centennial Workshop, in November of 2008 to identify current best practices to adopt or adapt for each individual’s park or park partner organization. The results of the Centennial Workshop were the creation of action items participants were to implement within six months of the strategic workshop.

Participants of this case study were employees and volunteers at National Park Service parks, historic sites, or monuments, and park partner organizations.
Seventy-one workshop participants responded to a Progress Update survey developed by the primary research investigator. Analysis of the Progress Update survey included frequencies, cross-tabulations, and factor analysis. The results of the study identified lack of commitment and changes in staffing as two barriers to completing the action items within the six-month timeframe.

Future research should be conducted on a larger sample population within a narrower timeframe using an established instrument. Identified topics for further research include the impact of agency structure and staff turnover on adoption rates, and motivation and commitment levels before, during, and after a workshop based on clear workshop purpose, goals, and objectives.
CHAPTER I

INTRODUCTION

Background

In 2008, the Alaska and Pacific West Regions (AKR and PWR respectively) of the National Park Service (NPS) met at Fort Vancouver National Historic Site, Washington for a three-day workshop to create innovative programs for celebrations of the NPS Centennial in 2016. During the three days, roughly 180 people from various national and state parks, park partners, park volunteers, and California State University, Chico collaborated in small working groups to establish small achievable tasks to complete in order to implement a larger program or product. Some of the groups were effective in continuing their work beyond the workshop regardless of the heavy workload. Most of the groups were ineffective in completing the tasks they voluntarily agreed to do. For workshop and meeting planners, understanding the barriers in post-workshop situations will help better prepare future workshop attendees to be successful in adopting the knowledge, known as an innovation, gained at the workshop.

Statement of the Problem

Organizations spend tens of thousands of dollars each year on innovation, staff development, and program or product delivery. Unfortunately, for many of the organizations, innovations are identified but never adopted, causing excess money to be...
spent. Research has been conducted on the adoption of innovation across various disciplines, but research about the rejection of innovation has been limited (Rogers, 2003). What are the barriers to adopting innovation by an individual, organization, or in a larger system? This question has limited research across disciplines and no published evidence within the recreation field.

Purpose of the Study

From the standpoint of innovativeness within an organization, the National Park Service has been a leader for nearly a century. With the commission of the National Park Service Centennial Initiative in 2006, parks across the nation have been identifying new or re-invented programs to implement in their own parks. In 2008, the Pacific West and Alaska Region of the National Park Service decided to join efforts to create or adapt programs on three themes, Climate Change, Ocean Stewardship, and Engaging Youth in Nature. The inter-regional workshop cost employees and parks money, time, and staff to conduct the workshop, yet based on investigator observation, very little was accomplished within six months of the workshop. The purpose of this study was to understand participants’ perceptions of the barriers of adopting innovation, specifically within six months of a strategic planning workshop.

Limitations

Several limitations impacted the formation and evaluation of this study.

1. Like most case studies, the findings from this study are limited to the population being observed and therefore, may only be generalized to a similar population. This study used AKR-PWR Centennial Workshop participants only.
2. Researcher bias. The researcher may have had some pre-conceived notions about the barriers to innovation and only looked for those possible responses in the open-ended responses both during the development of the Progress Update survey and in analyzing the results.

3. Because the researcher was working with a governmental organization, the length of time to approve the thesis topic and survey, and time lapse in general communication with officials effected the survey implementation date.

4. Once the survey was approved, administration of the survey was limited to the Pacific West Region Chief of Education and Interpretation and thus out of the researcher’s direct control for encouraging response.

Definitions

Commonly used terms throughout this study are defined as follows.

**Barrier**

This refers to all causes or reasons an individual within an organization does not adopt an innovation.

**Change Agent**

A person, or committee, that advocates for the adoption of an innovation.

**Diffusion of Innovation**

This is “the process in which (1) an innovation (2) is communicated through certain channels (3) over time (4) among members of a social system” (Rogers, 2003, p. 11).
Facilitator

This refers to all causes or reasons an individual within an organization adopts an innovation.

Innovation

“An idea, practice, or object that is perceived as new by an individual or other unit of adoption” (Rogers, 2003, p. 12). In the case of this study, an organization is the other unit of adoption.

Strategic Planning

Refers to the creation of “fundamental decisions and actions” by organizations’ key decision makers in response to the needs of their constituents, or competitors (Bryson, 1988, p. 74).

Theoretical Bases and Organization

The research question was identified through the literature on innovation, specifically diffusion of innovation, the attributes of innovation, and the barriers to adopting innovation. What are the identified barriers to adopting innovation, specifically action items, among participants of the AKR-PWR Centennial Workshop? A thorough discussion on the literature is presented in Chapter II.
CHAPTER II

LITERATURE REVIEW

Introduction

This chapter reviews the theoretical foundation of innovation, the diffusion of innovation process, and previously identified barriers to adoption of innovation by individuals, organizations, and systems.

Innovation

The definition of an innovation varies among researchers based on the context in which the term is used, such as industrial or technical organizations versus public service organizations (Damanpour, 1991; Damanpour & Schneider, 2006; Robertson, 1967; Rogers, 2003). The origin of the definition of an innovation was from the work of Joseph A. Schumpeter, an economist who viewed innovation as the generation of new industrial companies or equipment, new corporations, or new male-dominated leadership (Robertson, 1967). With a broader perspective, Anthropologist H. G. Barnett (1953) identified innovation as “any thought, behavior, or thing that is new because it is qualitatively different from existing forms” (p. 7). In an even broader context, sociologist Everett M. Rogers’ definition of an innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” emphasizes the perceptions of individuals provide greater identification of an innovation (Rogers, 2003, p. 12).
Further, the perceived “newness” of an innovation is represented as new knowledge, new persuasion, or new decision to adopt by members of a social unit (Rogers, 2003, p.12). Therefore, the innovation may in fact be an existing innovation that has been “reinvented” or an entirely new concept as perceived to be new to the user (Rogers, 2003, p. 180). For the purposes of this study, Rogers’ 2003 definition of innovation is used.

The causes for innovation to occur are in itself an entire topic to be studied, yet have been identified through the use of strategic planning. Strategic planning refers to the creation of “fundamental decisions and actions” by organizations’ key decision makers in response to the needs of their constituents, or competitors (Bryson, 1988, p.74). The “fundamental decisions and actions” do not occur during casual conversation at a social work function or in weekly department meetings but rather in a “series of discussions and decisions” over a period of time among “key decision makers and managers about what is truly important for that organization” (Bryson, 1988, p.74). Therefore, strategic planning workshops are one method used to streamline the decision-making process as a means to gather input from stakeholders (i.e., supervisory positions, employees, partners) and constituents (i.e., consumer or user of services) to make informed decisions in a period of one day to several days. Strategic planning is a process that ultimately forms new ideas, programs, or products, referred to in this paper as innovations.

Similar to Bryson’s (1988) reasoning for strategic planning, Damanpour (1991) proposes that “innovation is a means for changing an organization, whether as a response to changes in its internal or external environment or as a preemptive action taken to influence an environment” (p. 556). New trends and the needs of stakeholders
and constituents help drive organizations to develop innovations that are true to the organization’s values yet meet the identified needs. Stoller, Poth, Curtis, and Cohen (2006) would agree stating the innovation needs to “fit value and culture” of the organization or the “attempt at change is more likely to fail” (p. 182).

**Adoption of Innovation**

The research surrounding the adoption of an innovation among organizations is vast. Over the last sixty years, research on various aspects of adoption of an innovation have been examined including the diffusion process, phases of adoption, implementation, adopter behavior, and characteristics of adoption. Specifically, the diffusion of innovation has been the subject of several studies within recreation and social sciences (Canberg & Daniels, 2004; Chang, Lee, & Kim, 2006; Higgins, 1995 & 1996; Machlis & Harvey, 1993; Murphy & Tan, 2003; Newell & Swan, 1995; Song, Wang, Burch Jr. & Rechlin, 2004). Diffusion research is important to the sustainability of an organization.

The importance of adopting innovation is based on the ability of an organization to continue to grow and mature rather than decline and die. Klein, Conn, and Sorra (2001) study results on the implementation of computerized technology indicate that “financial resource availability and management support” foster “high-quality implementation policies and practices” and thus create a strong climate for change (p. 811). Although the results of their study were preliminary, they are considered important “because an organization’s success or failure in implementing innovation may have a profound influence on the organization’s survival” (Klein et al., 2001, p. 821).
Change Agent’s Role

An organization’s climate for change must be cultivated for readiness not resistance (Palmer, 2004). Similar to the findings of Klein et al. (2001), Palmer (2004) asserts that organizational change begins with managerial support and specifically a change agent, or person who is an advocate of change in the organization. Rogers (2003) defines a change agent as an “individual who influences clients’ innovation-decisions in a direction deemed desirable by a change agency” (p. 366). For governmental agencies, policy-makers feel a sense of urgency to force change to happen quickly rather than over time as change requires (Hall & Hord, 2001). Therefore, policy-makers have a very short window before position changes occur to implement their change. Unfortunately, a change agent may be a barrier in itself, not only because of the urgency, but also due to their “superior know-how,” which makes communication with the client directly to be difficult (Rogers, 2003, p. 368). Stoller et al. (2006) agree indicating “if an initiative is not followed by continuous communication, ongoing training, on-site coaching, and time for implementation, it is not likely to succeed,” and a change agent provides those elements (p. 183). Hall and Hord (2001) emphasize that “change facilitators,” a team of people invested in the outcomes of the innovation, are essential for successful implementation of an innovation because a singular person cannot facilitate change on his or her own (p. 149).

In an analysis of 84 case studies of tactics used to implement change within an organization, “implementation by participation” had an “eighty-four percent success rate,” yet was used by only seventeen percent of the cases (Nutt, 1986, p. 252). Adopting innovation by employee participation, championed by a change agent, has been found to
be productive in implementing change within an organization (Nutt, 1986).

“Implementation by participation” occurs when change agents, or managers, create a need, and then “assign decisions for developmental activities” (Nutt, 1986, p. 244). “Task forces” of employees are created to develop and evaluate the identified innovation, and have complete control over the decision making process (Nutt, 1986, p. 245). Then, management monitors the implementation of the recommended innovation throughout the entire organization. According to Nutt (1986), “the benefits of participation seem contingent on what task forces are asked to do and the scope of the involvement of key people” (p. 256). This process includes different levels of involvement by both the task force and the stakeholders, ranging from “token or delegated participation to complete or comprehensive participation” (Nutt, 1986, p. 246).

**Nature of the Social System**

In addition to a change agent, an organization’s climate for change also is impacted by the type of group adopting the innovation: “homophily or homogeneous” or “heterophily or heterogeneous” (Klein & Sorra, 1996, p. 1065; Rogers, 2003, p. 305). Rogers (2003) defines homophily as the “degree to which a pair of individuals who communicate are similar” (p. 305). Klein and Sorra (1996) refer to a group rather than a pair that have fewer differences. Barriers to adopting innovation may result from groups being too similar, causing an adoption on a same level, or “horizontal” level within an organization, rather than spreading the innovation throughout all levels of an organization (Rogers, 2003, p. 305). Klein and Sorra (1996) expressed the tendency for conflict to occur between groups on the same level, if one group is able to adopt an innovation over the other. Therefore, heterophily, or differences in “certain attributes” among individuals
or groups, may contribute to adoption of an innovation in an organization (Rogers, 2003, p. 305).

**Diffusion of Innovation**

According to Rogers (2003), diffusion is defined as “the process in which (1) an innovation (2) is communicated through certain channels (3) over time (4) among members of a social system” (p. 11). As previously defined, an innovation is perceived as new to the adopter. In order to know about the innovation, organizations use communication channels, a “means by which a message gets from the source to the receiver” (Rogers, 2003, p. 204). Examples of communication channels include “mass media” such as radio, television, newsprint, and interpersonal “a face-to-face exchange between two or more individuals” (Rogers, 2003, p. 205).

In order for diffusion of an innovation to occur, change must happen at an individual, an organizational, and a community level (Higgens, 1996). Innovation within organizations is not adopted overnight, but takes time. The rate of adoption is based on several factors including five perceived attributes, the type of innovation-decision, types of communication channels, the nature of the social system, and the extent of change agents’ promotion efforts (Rogers, 2003). The latter three factors have already been discussed in this literature review but the types of innovation-decisions and the five perceived attributes are essential for understanding the overall rate of adoption of an innovation and will be discussed in greater detail.
Types of Innovation-Decisions

The types of innovation-decisions within organizations to adopt or reject an innovation depend on who has control over the decision, the individual user, the group, or the administration. Rogers (2003) describes three types of innovation-decisions as “optional, collective, or authority” (p. 403). The individual user within an organization may have the choice to adopt or reject an innovation regardless of the decisions of others within an organization or system. The “optional” decision type allows an individual to have control over the rate of which an innovation is adopted (Rogers, 2003, p. 28). A “collective” group decision to adopt or reject an innovation is made among a group of people within an organization, or system (Rogers, 2003, p. 28). Instead of having individual control, people must adapt to the decisions made as a collective whole. In most cases within an organization or system, an authority decision is made by a few people in administration or powerful positions to adopt or reject an innovation (Rogers, 2003, p. 28). In authority decisions, there is very little control over the decisions being made and employees must conform to the organization or systems by implementing the decisions. The perception of control over adopting or rejecting an innovation directly affects the rate of adoption.

Innovation-Decision Process

The innovation-decision process includes the following stages: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003, p. 169). An individual or organization may begin the innovation-decision process based on a “prior condition” requiring the adopter to react to a perceived need (Rogers, 2003, p. 171). Prior conditions may include a need for an innovation, previous experience with the
innovation, organizational innovativeness, and adaption to trends in society. Rogers (2003) defines a need as a “state of dissatisfaction or frustration that occurs when an individual’s desires outweigh the individual’s actualities” (p. 172). Throughout the process, communication channels are used to aid in the adoption process.

The knowledge stage occurs when an individual or organization learns about an innovation and its function (Rogers, 2003). According to Rogers (2003), awareness of an innovation is not enough for someone to use the innovation but a “how-to-knowledge” is required to understand how the innovation functions (p. 172). In relation to barriers of adopting an innovation, “when an adequate level of how-to knowledge is not obtained prior to the trial and adoption of an innovation, rejection and discontinuance are likely to result” (Rogers, 2003, p. 173). The persuasion stage is when an individual or organization becomes more attached to the innovation on a psychological level; they find preference for or against the innovation. During the persuasion stage, individuals or organizations recognize “cues to action,” an event that transforms a positive attitude into action (Rogers, 2003, pp. 176-177).

Each stage is critical to the adoption of an innovation but the decision stage is when an individual or organization decides to adopt or reject an innovation. Further, the decision stage allows for people to use the innovation for a period of time to see if there is a good fit. In the case of rejection, there are two types: active and passive. “Active rejection” means an individual has considered adopting an innovation then chooses to reject it and “passive rejection” means an individual never really considers using the innovation (Rogers, 2003, p. 178). Rejection of an innovation can happen at any stage of the innovation-decision process.
The last two stages, implementation and confirmation involve the use of the innovation and the establishment of the innovation in everyday practice. Both of the stages require action, yet in the confirmation stage, the user is looking for “reinforcement” that the decision to use the innovation was a good decision (Rogers, 2003, p. 189). It is during the confirmation stage, that individuals or organizations try to avoid dissonance because “dissonance” leads to “discontinuance” (Rogers, 2003, p. 190). The decision to no longer use an innovation is considered discontinued. In the case of another innovation that may be perceived as better, the individual may replace the currently used innovation with the better one, known as “replacement discontinuance” (Rogers, 2003, p. 190). If an individual or organization is unhappy with the performance of an innovation, then “disenchantment discontinuance” may occur resulting in the discontinued use of the innovation (Rogers, 2003, p. 190). The innovation-decision process is best understood when the characteristics of an innovation are identified.

Characteristics of Innovation

Several researchers have attempted to identify characteristics of innovations as it impacts an individual’s decision to adopt the innovation. According to Robertson (1967), an innovation may be classified as “continuous, dynamically continuous, or discontinuous” based on the level of disruptiveness qualities of the innovation (p. 15). The least disruptive, continuous innovations include modifications to an existing idea, practice, or object, which make adoption easier to accept, for example flavored water (Robertson, 1967). Dynamically continuous innovations are slightly more disruptive but do not usually disturb existing habits of an individual adopter. The innovations may be
new or modified existing innovations, for example the “touch-tone telephone” (Robertson, 1967, p. 16). Discontinuous innovations cause individuals to establish new habits due to the new innovation, for example the microwave oven (Robertson, 1967). Understanding the classification of innovations is helpful when determining what the impact of the innovation will be on the adopter’s behavior patterns.

Similar to Robertson, continued use or rejection of an innovation can be determined based on the innovation’s characteristics. According to Rogers (2003), “most of the variance of adoption of innovation, from 49 to 87 percent, is explained by five attributes:” relative advantage, compatibility, complexity, trialability, and observability (p. 221). Of the five perceived attributes, relative advantage and compatibility have been noted as important characteristics in the rate of adoption (Rogers, 2003). The five perceived attributes are described individually below.

- Relative Advantage is the degree to which an innovation is perceived as better than the idea it supersedes;
- Compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters;
- Complexity is the degree to which an innovation is perceived as difficult to understand and use;
- Trialability is the degree to which an innovation may be experimented with on a limited basis;
- Observability is the degree to which the results of an innovation are visible to others. (Rogers, 2003, pp. 15-16)

Rogers and Shoemaker (1971) believe the five perceived attributes have relative importance to the stages of the adoption process. Within the knowledge stage, compatibility and complexity affect the rate of adoption the most. Relative advantage and observability influence the adoption rate the most in the persuasion stage and trialability is most influential in the decision stage (Rogers & Shoemaker, 1971, p. 160).
Applying the five attributes to a specific innovation has been the focus of a few studies. Ham and Weiler (2004) applied Rogers and Shoemaker’s (1971) relative importance of the five attributes to an innovation to the stages of the innovation-decision process in a case study specifically on thematic interpretation at Sovereign Hill historic park. Thirty-three interpreters attended a workshop in August 2002 on using a thematic interpretation approach and completed a questionnaire about personal use levels of the approach. Ham and Weiler (2004) also found relative importance between the stages of the innovation-decision process, specifically the first three stages, and the five perceived attributes of innovation. Negative comments made by the participants, such as “It’s not always practical” and “There’s not enough time” indicate a barrier to adopting the thematic interpretation approach based on compatibility and complexity in the knowledge stage (p. 14). Within the persuasion stage, the attributes of relative advantage and observability received more positive responses from interpreters, such as “It has produced an air of motivation not only in my role as a guide but across the park” (Ham & Weiler, 2004, p. 14). At the decision stage, trialability indicates another barrier to adopting the innovation. Comments made by interpreters indicate a fear of failing and a lack of supervisor support (Ham & Weiler, 2004).

Machlis and Harvey (1993) applied the five attributes to the Visitor Services Project (VSP) of the National Park Service. The VSP is a survey adopted to and conducted at National Parks to understand visitor experiences to help aid in the park’s decision-making process. In analyzing the diffusion of the VSP across National Parks, several comments made by park employees about the VSP reflected the five attributes. Examples of the applied attributes are as follows.
Relative advantage of the VSP is that it “requires little park staff time other than survey design and close-out workshop”

Compatibility of the VSP “allows for comparison with other parks’ results

Complexity of the VSP “close-out workshops allow managers to question researchers”

Trialability of the VSP “financial support for VSP on year-to-year basis

Observability of the VSP “newsletter keep adopters informed.” (Machlis & Harvey, 1993, p. 60)

In a 2004 study on the diffusion of Outdoor Adventure Leadership Degree programs in the United States, Canberg and Daniels found three additional characteristics in addition to the five attributes that apply to the adoption of innovation. Through the use of experts and judges of Outdoor Leadership programs, “leadership, location, and affiliation” were the additional characteristics identified (Canberg & Daniels, 2004, p. 27). Of the eight attributes, leadership scored the highest among the 32 program leaders of identified Outdoor Leadership programs that met all the criteria of a true outdoor leadership program (Canberg & Daniels, 2004). As mentioned earlier, a change agent, or an “innovation champion,” can impact the adoption of an innovation in an organization by being an advocate for the innovation (Canberg & Daniels, 2004, p. 31). Therefore, leadership is an important characteristic in determining whether or not an organization adopts or rejects an innovation. Compatibility and complexity of the innovation followed leadership (respectively) as important attributes of adopting the innovation, in this case the Outdoor Leadership Degree Program (Canberg & Daniels, 2004).

Barriers to Adoption

Current research on innovation focuses primarily on the adoption process. Change agents, moderators, and facilitators of implementing innovation are all focused
areas of the adoption process. Yet, many innovations are not adopted and therefore, are rejected. The failure to adopt an innovation is an area of research that has been neglected (Rogers, 2003). Yet of the research that has been conducted on the barriers of the adoption of innovation, there is no consensus among researchers as to what specifically prevents individuals from adopting an innovation due to each individual or organizations’ unique qualities (Frambach & Schillewaert, 2002). A variance in factors among organizations that hinder or facilitate adoption of innovation is reasonable to consider (Seffrin, Panzano, & Roth, 2008). Song et al. (2004) assert, “underlying the adoption of any [technological] innovation are the social, organizational, and cultural factors that constrain that adoption or cause it to adapt to meet those conditions” (p. 226). In order to provide a common construct from the broad research, individual, organizational, and systemic barriers are the main categories in which each study will be discussed. Some of the studies have identified barriers in one or more of the categories.

**Individual Barriers**

Individual perceptions of barriers to a product or program innovation adoption are often the focus of study across disciplines. Understanding an individual’s perspective is important in order to provide products and programs people will be willing to adopt. In a 2008 study by Henderson, Mathias-Humphrey, and McDermott, after interviews with twelve different level employees and in-depth analysis of organizational documents, the barriers to implementation of a rural school-based probation program were identified based on the three different levels. At an individual level, barriers included “inexperienced staff, turnover, role confusion, and role conflict” (Henderson, Mathias-Humphrey, & McDermott, 2008, p. 34). In regards to role confusion, several of the
school-based officers commented about the thin line between the duties of the two jobs (school-based officer and line officer). Dividing tasks of each case between the school-based officer and the line officer caused frustration and confusion over when to ask the other for assistance. In addition, there were no identified supervisors between these two jobs, yet responsibility over youth cases naturally created one position to be higher over the other, which further caused role confusion and conflict (Henderson, Mathias-Humphrey, & McDermott, 2008).

In the case of environmental education as the innovation, Hooper (1980) found barriers of educators to be both personal and organizational. Of the 328 teachers in California whom completed the questionnaire, more than fifty percent reported curriculum development time as a barrier, in addition to almost fifty percent reporting “lack of instructional materials” (Hooper, 1980, p. 106). Fourteen percent of the respondents had discontinued teaching environmental education within their curriculum due to several factors. Of the factors, the majority of discontinued respondents (75%, n = 33) reported a change in teaching assignment as the limitation resulting in the challenge of applying “environmental themes” to the new assignment (Hooper, 1980, p. 102). Organizational limitations included “inadequate training, inadequate funding, lack of community involvement, inadequate administrative leadership, and lack of recognition for innovative teaching” (Hooper, 1980, p. 106).

Organizational Barriers

The barriers to adopting innovation within an organization limit the ability of an organization to adapt to trends and grow as an organization. Understanding the barriers in terms of organizational culture is important to establish policies and
procedures that will enhance an organization’s mission and focus. In regards to Henderson et al.’s 2008 study, the organizational level barriers identified include service delivery problems, physical location of offices, poor communication, poor cooperative working groups, “workload disparities, and lack of management supervision” (Henderson et al., p. 34). Within service delivery problems, instead of using a strategic planning model, the first school-based officer hired developed the school-based probation program with “little direction and without supporting documentation” (Henderson et al., p. 33). The program was developed based on observation of another similar program in another county. No effort was made to create a manual or other documentation that would have improved the implementation process for this probation program.

In the case of applied social science, Weiss (1980) found four perceived constraint categories to the use of research within an organization in a study of 255 participants, including 155 decision makers in several mental health executive agencies, 50 researchers, and 50 research review committee members (p. 41). After in-depth interviews with the study participants, the barriers were categorized as “receptivity,” “decision-making constraints,” “research constraints,” and “linkage constraints” (Weiss, 1980, pp. 232-238). Six identified constraints were common among all of the respondent groups.

1. Decision makers’ unwillingness to rely on research that is inconsistent with their own beliefs or their agency’s philosophies;
2. The political nature of the decision making process;
3. The institutional drag on social scientists’ responsiveness to government research needs, particularly the disciplinary reward structure in the university;
4. Inadequate communication between decision makers and researchers;
5. The inability of decision makers to define and specify their research needs and
6. The inability of government research program officers to fill the communication gap, either from decision maker to researcher about knowledge
needs or from researcher to decision maker about research results. State and local
decision makers are particularly sensitive to defects in this communications
channel. Research review committee members are less critical of their
effectiveness. (Weiss, 1980, pp. 241-242)

Weiss (1980) also commented that almost none of the perceived constraints were due to
personal characteristics, i.e., “profession, length of time in position, previous experience,
highest degree, field of degree, political orientation, and age” (p. 241). Location and
position were found to make some difference (Weiss, 1980).

Van Every (1983) and Machlis and Harvey (1993) both found similar
organizational barriers to implementing innovation, specifically within the National Park
Service. Van Every (1983) identified the problems with implementation of a mapping
system to be rooted in “personnel limitations, time restrictions, cost constraints,
recruitment or training of knowledgeable data collection people” and incorporating the
technique “into existing data collection systems” (Van Every, 1993, p. 81). Similarly,
Machlis and Harvey (1993) found personnel limitations to be a barrier for the adoption of
the Visitor Services Project (VSP) within the National Park System, mentioned earlier in
this chapter. Machlis and Harvey (1993) indicated that “high turnover rates of NPS
management” results in “continual training of potential adopters” in the use of the VSP,
and thus a barrier to the continued use of the VSP within a park or region (p. 61). With
this knowledge, a program was created for educating new employees in the VSP process
to make adoption process smoother.

Systemic Barriers

Products and programs do not exist on their own but develop and evolve on a
much larger scale. The dynamics of inter-organizational relationships impact the adoption
of innovation. Adoption of innovation from a systemic perspective is important to understand due to the collaborative nature of program adoption. Understanding the barriers in a system will help strengthen partnerships and aid in the adoption process.

Similar to lack of communication between researchers and decision-makers in Weiss’ 1980 study, the systemic barriers found in Henderson et al.’s 2008 study include “non-cooperation between the school and probation department and the failure to incorporate treatment services into the program structure” (Henderson et al., p. 34). Difficulties in physical location since no offices were on the school campus for the school-based officers or line officers caused a breakdown of communication and cooperation between the schools and the probation department. In addition, the lack of support from the court systems for the school-based officers to provide treatment opportunities for the youth caused many youth to become repeat offenders (Henderson et al.).

Seffrin et al. (2008) attempted to understand what the barriers and facilitators of adopting and implementing an innovation were among “78 innovative mental health projects” (p. 475). A survey of 166 informants, including non-adopters and implementers, were analyzed based on two components; the topic of response and the time phase in which the respondents mentioned the topic (Seffrin et al., p. 475). The barriers among non-adopters included funding, the system, and the fit of the innovative mental health project with the values of the organization (Seffrin et al., p. 480). Implementers mentioned the system, innovative mental health project fit, and funding as the barriers most frequently. In regards to the time phase, non-adopters were not analyzed for facilitators or barriers due to the fact that non-adopters make decisions not to adopt
during the pre-decision phase. Therefore, for the implementers the barrier of the system, which is the “network in which the project operates, ranging from collaborative entities in the immediate community to statewide funding streams,” had the most average mentions during the pre-decision phase of the diffusion of innovation process (Seffrin et al., p. 477). During the early and full implementation phases, implementers mentioned staffing as the biggest barrier to implementing the innovation, followed by funding (Seffrin et al., p. 480). The findings of this study suggest that the system in which an innovation is being implemented is a key factor to implementation.

Unlike the findings of the aforementioned systemic studies, Jacobson et al. (2006) found institutional barriers to be a moderate concern for managers of a bureau-wide survey. The survey of 90 managers and biologists of the barriers to implementing an objective-based vegetation management (OBVM) process was a two-phase study; phase one included a survey of 74 open and closed-ended questions and an organizational culture assessment instrument (Jacobson et al., 2006, p. 1518). Following the completion of the surveys, phase two consisted of interviews conducted with

13 area managers and biologists and 6 Florida Fish and Wildlife Conservation Commission (FWC) monitoring staff and administrators who attended four site-specific workshops introducing the process to field staff. (Jacobson et al., 2006, p. 1520).

Based on an extensive literature of adaptive management and ecosystem management, six categories of barriers to adopting innovation were identified.

- **Logistical barriers** are based on a perceived lack of resources, time and staff to implement management practices and data collection and a lack of clear timelines, goals, and objectives.
- **Communication barriers** arise from an inability to interact across disciplines, a lack of interaction among stakeholders, and a lack of information flow within the management institution.
• **Attitudinal barriers** form from misperceptions that managers and scientists have of each other and from concerns about adaptive and/or ecosystem management and how it will affect jobs or natural systems.
• **Institutional barriers** stem from an organizational culture and structure that is not suited to adaptive management.
• **Conceptual barriers** arise from individuals’ lack of understanding or experience with the process of holistic land management approaches.
• **Educational barriers** relate to the level of knowledge that managers, scientists, and other key stakeholders have of adaptive and/or ecosystem management. (Jacobson et al., 2006, p. 1518)

The data represents managers’ perceptions of the six barriers and results were similar for both the survey and the workshop respondents. Of the barriers analyzed, both survey and workshop respondents identified logistical barriers as “significantly greater than other barriers” (Jacobson et al., 2006, p. 1520). Those concerns included the “fear of increased workload and lack of staff, money, and other resources” in addition to completing projects in a “timely fashion” (Jacobson et al., 2006, p. 1520). A communication breakdown between the administration and the field staff was an identified barrier to understanding important roles of implementing the OBVM process.

**Conclusion**

The adoption of an innovation is a process requiring communication to potential users about the attributes of an innovation. Understanding why potential users do not adopt an innovation, or reject an innovation, is important to the development of innovations within organizations to grow and survive in tough economical times. Current research has provided limited information on the barriers to adopting innovation within an organization. The focus of this study is to understand participants’ perceptions of the
barriers of adopting an innovation using a case study of the AKR-PWR Centennial Workshop.
CHAPTER III

METHODOLOGY

Introduction

This study set out to explore perceptions of the barriers of adopting innovation among participants of a strategic planning workshop. Specifically, the goal was to explore the barriers that prevented the adoption of innovation and the differences between adopters and non-adopters regarding barriers. The AKR-PWR Centennial Workshop was used as the case study for the research.

Background on Sample

The National Park Service (NPS) has a long history of groundbreaking innovations since the establishment of Yellowstone National Park in 1872 and the National Park Service in 1916 (National Park Service Advisory Board, 2001). The NPS has been looked up to among American citizens and international visitors alike as a vision of what true democracy looks like (Burns & Duncan, 2009). Yet according to the National Park Service Advisory Board (2001), another vision is developing, “a picture of the National Park Service as a sleeping giant- beloved and respected, yes; but perhaps too cautious, too resistant to change, too reluctant to engage the challenges that must be addressed in the 21st century” (National Park Service Advisory Board, 2001, p. 8). Therefore, in 2001, the National Park Service Advisory Board, in a report entitled
Rethinking the National Parks for the 21st Century, called to action the NPS to join efforts with other interested parties to “educate and inspire, leading to greater self-awareness [of critical environmental and historical issues] and national pride” (p. 9).

In addition to this call to action, in August of 2006, President George W. Bush, Secretary of the Interior Dick Kempthorne, and the Director of the NPS Mary Bomar initiated the President’s National Park Centennial Initiative consisting of a commitment to provide funding and challenge public and private investors in matching funds (Department of the Interior, 2006). This initiative was considered to be a historic allocation of funds for the budget of the national parks. In addition, individual national parks were asked to create proposals for new programs that aligned with the Centennial Initiative to increase the number of “ranger-led programs and restored natural and cultural sites,” as well as “volunteerism and philanthropy” (Department of the Interior, 2006, para. 6).

Shortly following the President’s Initiative, the National Education Council’s Interpretation and Education Renaissance Action Plan was released identifying five pillars moving the National Park Service forward to the Centennial in 2016 (National Education Council, 2006). The five pillars include 1) engage people to make enduring connections to America’s special places, 2) use new technologies, 3) embrace interpretation and education partners, 4) develop and implement professional standards, and 5) create a culture of evaluation. The five “tenets” or pillars set the “criteria for decision making and are the organizing principles used to focus work” (National Education Council, 2009, p. 1). This report has set the foundation for park employees and park partners to develop new interpretive and educational programs.
AKR-PWR Centennial Workshop Case Study

With the foundation in place, 180 participants attended a bi-regional workshop for the education and interpretation divisions of the Alaska and Pacific West regions of the National Park Service in November of 2008. The purpose of the AKR-PWR Centennial workshop was to “to advance the role of the National Park Service as a world leader in natural and cultural resource stewardship, recreational experiences, and education (the Centennial Initiative); and to commit to a shared vision for the Alaska and Pacific West regions in demonstrating best practices” (D. Adams, personal communication, November 5, 2008). Four topics within three themes, Climate Change, Engaging Youth in Nature, and Ocean Stewardship were developed for a total of twelve individual topics. Each topic represented a working group of 10 to 15 individuals from 57 National Parks in the two regions, Park Partner Organizations, and CSU, Chico students. The three themes and twelve working groups were titled as follows:

- **Climate Change**
  - Demonstrating Sustainable Practices and “Walking the Talk”
  - Synthesizing the Science- Becoming the Honest Broker for Truth
  - Developing Articulate, Well-informed Management and Staff
  - Creating Innovative and Compelling Climate Science Outreach

- **Engaging Youth and Nature**
  - Building Future Constituencies using a Holistic Approach
  - Designing Experiential and Service-Oriented Learning Activities
  - Developing Multicultural and Community Outreach
o Preparing Teachers and Families in Connecting to Parks in the 21st Century

• Ocean Stewardship
  o Enhance Ocean Awareness and Understanding through Interpretive Materials
  o Create a communication Strategy for AK/PW Region Ocean Parks
  o Enhance Ocean Awareness and Understanding through Partnerships
  o Connect Non-Coastal Parks to Ocean Resources

One of the goals of the workshop was to “identify and describe action items and metaphorical models that help each park to accomplish its Centennial projects стратегии following the workshop” (D. Adams, personal communication, November 5, 2008). One objective to accomplish this goal was to have groups work “collaboratively with other colleagues/partners to develop twelve implementation plans that support the three themes of Ocean Stewardship, Engaging Youth, and Climate Change” (D. Adams, personal communication, November 5, 2008). A second objective was to have each participant learn at least 12 new tools (best or better practices) to add to their Centennial Tool Box. The newly acquired tools were to be implemented in the six months following the workshop, through May 2009.

In order to implement the larger strategic plans designed by each group, action items were identified and assigned to each group member. Action items are individualized tasks needing to be completed before the innovation can be implemented. Assignment of the specific action items was voluntary, not required. Each action item was assigned a completion date determined by the group to be realistic within the agreed
upon timeframe, which averaged about six months. The number of action items varied from group to group but averaged about 12-15 items. Some members of each group had more action items to complete over others; again, the assignment of items was voluntary.

Design Methods

In this descriptive study, a mixed methods design within the case study was used. Using a mixed methods approach allows for an exploration for deeper meaning to the find the answers to the posed research questions (Yin, 2009). Therefore, the techniques used in this case study to develop a mixed methods survey were: 1) data from qualitative and quantitative evaluations obtained during and post workshop by the planning committee, 2) unsolicited feedback from participants, and 3) the workshop planning committee meeting notes.

Creating a culture of evaluation is one of the Renaissance pillars of the National Park Service. Prior to the workshop, an evaluation subcommittee developed the evaluations to be used during and after each day of the workshop. Throughout the workshop, evaluations were distributed to solicit feedback on the progress of developing action items to implement after the workshop was completed and the overall workshop effectiveness. Of the five session evaluations conducted during the workshop, two of the evaluations were quantitative by nature and three were qualitative. The information gathered from all of the evaluations conducted at the workshop was used to develop the Progress Update survey completed after the six-month implementation phase. Specifically, a series of thirty statements were used based on actual comments made by
participants and were categorized into the six identified barriers listed by Jacobson et al. (2006) for the Progress Update survey.

After the workshop was completed, the researcher was involved in additional National Park Service associated events resulting in consistent contact with participants from the AKR-PWR Centennial Workshop. The participants offered unsolicited feedback on the progress of implementing their personal action items and their opinions as to why action items were not being completed. In addition, the researcher was responsible for contacting and encouraging group facilitators to complete the action items throughout the six-month implementation phase. During those emails and telephone connections, participants shared their perspectives as to why the action items of their group were not being implemented. The researcher documented the feedback using field notes. These data, in addition to info gathered at the workshop, were used in developing the Progress Update survey completed after the six-month implementation phase.

From September of 2008 to June of 2009, the researcher participated on weekly, bi-weekly, and monthly conference calls with the planning committee of the AKR-PWR Centennial Workshop. The researcher documented the topics being discussed including the feedback from participants on the implementation of their personal action items. The information from the meeting notes were used to develop the Progress Update survey completed after the six-month implementation phase.

Since the AKR-PWR Centennial Workshop is one of a kind, previous research methods for follow-up on action item implementation did not exist. Therefore, the researcher used the previously mentioned information and the identified themes of the diffusion of innovation process in the development of the Progress Update survey. The
The Progress Update survey focused on the commitment levels of participants, current support from supervisors, barriers to adoption, the diffusion of innovation stages, and group effectiveness. The survey was used not only for this thesis topic, but to generate feedback to be evaluated before the Pacific West Region may implement future workshops (see questions 12-22 of the Progress Update Survey in Appendix A).

The researcher developed a pilot test of open-ended questions based on data from emails, phone conversations, meeting notes, and workshop evaluations. This pilot test was then administered to the workshop planning committee for feedback. The responses from the committee were analyzed and used to develop the final survey. In addition, the researcher’s masters thesis committee and the Pacific West Regional Chief of Interpretation reviewed the changes and approved the survey. The final Progress Update survey consisted of a 22-question survey and sixty-two variables. Questions on the survey consisted of closed and open-ended questions.

The Progress Update survey was then administered through an online survey software company, Survey Monkey. The survey link to the Survey Monkey website was emailed to the 180 participants by the Pacific West Regional Chief of Interpretation at the time of the study, Deanne Adams. A short description of the purpose of the study and a consent letter were included in the email, as well as provided at the beginning of the survey. See Appendix A for a copy of the email and survey. The participants had a window of approximately two weeks, September 1, 2009 to September 16, 2009 to complete the survey. Midway through the two weeks, a second reminder email was distributed to all participants by the Pacific West Regional Chief of Interpretation. The six-month implementation phase of the workshop action items was to be completed in
May of 2009. The Progress Update survey was administered approximately ten months after the initial workshop, September of 2009, resulting in a four-month time lapse. In addition, the Progress Update survey was administered during the tourist season for the National Park Service.

Sample Population

The population of 180 workshop participants used within this study was divided into four categories: National Park Service Employees (n = 140), Park Partner Organizations’ employees (n = 16), National Park Service Volunteers, including CSU, Chico students (n = 23), and Partner Volunteers (n = 1) for a total of 180. Participants were both male and female and represented a varied length of time with the agency, from less than one year to more than 20 years.

Data Preparation

Data collected from the Progress Update survey were analyzed using a two-step process. First, the qualitative responses were coded based on themes developed through content analysis and placed into the SPSS 16.0 dataset. The second step used the SPSS 16.0 dataset to run univariate, bivariate, and multivariate analyses including frequencies, cross-tabulations, and factor analysis (Babbie, 2007). A general overview of the results was obtained by running a frequency distribution of the sixty-two variables within the 22-question survey. After obtaining the general overview, the researcher performed cross-tabulations and factor analysis for the research question. Results of the study are reported in Chapter IV.
CHAPTER IV

FINDINGS AND RESULTS

Introduction

The purpose of the study was to examine participants’ perceptions of the barriers to adopting innovations developed at the AKR-PWR Centennial Workshop. All 180 participants from the workshop were administered a 62 variable Progress Survey questionnaire using Survey Monkey, approximately ten months post workshop. The questionnaire was developed using field notes, unsolicited comments from participants, and evaluation results from prior studies. The researcher did not perform validity or reliability tests on the survey used in the study. Descriptive statistics and the findings of the research question are detailed as follows.

Descriptive Statistics

This study examined the results of participant responses of 71 surveys in which 55 completed all the items out of 180 administered surveys (39.4% response rate) from the AKR-PWR Centennial Workshop to the Progress Survey questions listed in Appendix A. The timeframe for participants to complete the survey was administered during two weeks of the tourist season for the represented parks. Within the four represented groups, response rates relevant to each total category resulted in 45% of NPS employees \((n = 140)\), 17% of NPS volunteers including CSU, Chico \((n = 23)\), 19% of
Park Partner employees \((n = 16)\) and 100\% of Park Partner volunteers \((n = 1)\) responded to the survey. In reviewing the results of the survey, “no response” was not included in the analysis.

The majority of the survey respondents \((n = 71)\), 89\%, were National Park Service employees \((n = 63)\), 6\% were National Park Service volunteers, including CSU, Chico students \((n = 4)\), 4\% were Park Partner representatives \((n = 3)\), and 1\% was a Park Partner volunteer representative \((n = 1)\). More than two-thirds of the respondents were female \((n = 49)\), and 29.6\% were male \((n = 21)\).

The respondents ranged from less than a year in their current position within their respective agency to more than 20 years experience with the majority, 26.8\%, being three to seven years \((n = 19)\). One to three years in the position accounted for 22.5\% of the respondents \((n = 16)\) and seven to twelve years represented 21.1\% \((n = 15)\). Ten respondents were less than a year in their position (14.1\%). Those with longer tenure in their positions accounted for approximately 10\% of the total respondents \((n = 8)\). See Tables 1-3.

The majority of respondents, 31\%, committed to one action item at the workshop \((n = 22)\) with zero or two action items, and “don’t know” having similar frequencies (16.9\%, 15.5\%, and 14.1\% respectively). By employment status, paid employees voluntarily accepted more than two action items \((n = 25)\), whereas volunteers voluntarily accepted one or less \((n = 3)\) as depicted in Table 4.

Upon conducting a cross-tabulations analysis on participant gender (Q3) or length in current position (Q2) against the thirty “I” statements (Q9.1 to 11.30), no significant relationships were found.
Table 1

*Descriptive Statistics of Employee Status*

<table>
<thead>
<tr>
<th>Variables</th>
<th>%</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPS Employee</td>
<td>88.7%</td>
<td>63</td>
</tr>
<tr>
<td>Partner Employee</td>
<td>4.2%</td>
<td>3</td>
</tr>
<tr>
<td>NPS Volunteer</td>
<td>5.6%</td>
<td>4</td>
</tr>
<tr>
<td>Partner Volunteer</td>
<td>1.4%</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note.* Total number of respondents = 71.

Table 2

*Descriptive Statistics of Gender*

<table>
<thead>
<tr>
<th>Gender</th>
<th>%</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>70%</td>
<td>49</td>
</tr>
<tr>
<td>Male</td>
<td>30%</td>
<td>21</td>
</tr>
</tbody>
</table>

*Note.* Total number of respondents = 71.

Cross-tabulations between the number of action items committed to at the workshop (Q4) and the completion of the action items (Q5) shows a significant relationship (*n* = 64, Pearson Chi-square 0.004). The fewer items committed to at the
Table 3

*Descriptive Statistics of Length of Time in Current Position*

<table>
<thead>
<tr>
<th>Length of Time</th>
<th>%</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year in current position</td>
<td>14.7%</td>
<td>10</td>
</tr>
<tr>
<td>1-3 years in current position</td>
<td>23.5%</td>
<td>16</td>
</tr>
<tr>
<td>3-7 years in current position</td>
<td>27.9%</td>
<td>19</td>
</tr>
<tr>
<td>7-12 years in current position</td>
<td>22.1%</td>
<td>15</td>
</tr>
<tr>
<td>12-20 years in current position</td>
<td>8.8%</td>
<td>6</td>
</tr>
<tr>
<td>More than 20 years in current position</td>
<td>2.9%</td>
<td>2</td>
</tr>
</tbody>
</table>

*Note.* Total number of respondents = 71.

workshop “zero and one,” the higher the likelihood that the action items were not completed. The inverse relationship counts for 66.7% of the total respondents of “no” ($n = 16$) to the completion of the action items and “zero and one” action item committed to at the workshop.

When asked, “have you completed any of the action items you committed to,” (Q5) 61.5% of the respondents said “yes” ($n = 40$) and 38.5% said “no” ($n = 25$). Of the 25 people who said “no,” the follow-up question was “do you have a plan to complete the action items” (Q6), in which 36.4% said “yes” ($n = 8$) and 63.6% said “no” ($n = 14$). In order to understand the barriers of adopting innovation, the people who have not implemented their action items nor have a plan to do so were analyzed for the research question.
Table 4

Cross-tabulation Results Between Employment Status and Number of Action Items Committed to at the Workshop

<table>
<thead>
<tr>
<th>Employment status</th>
<th>Number of Action Items Committed to at the Workshop</th>
<th>Percentage within</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>NPS Employee</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>Percentage within</td>
<td>17.5%</td>
<td>28.6%</td>
</tr>
<tr>
<td>Partner Employee</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Percentage within</td>
<td>.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>NPS Volunteer</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Percentage within</td>
<td>.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Partner Volunteer</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Percentage within</td>
<td>100.0%</td>
<td>.0%</td>
</tr>
</tbody>
</table>

*Note. Total number of respondents = 71.*

Tests of Research Questions

Research Question Analysis

The following representation of data refers to the research question, “What are the identified barriers to adopting innovation, specifically action items, among participants of the AKR-PWR Centennial Workshop?” Three types of analysis were completed to look at potential barriers: content analysis, cross-tabulations, and factor analysis.
By completing a content analysis of the open-ended question, “please specify your plan or why you do not have a plan to complete your action item(s),” (Q6a) eight themes emerged ($n = 20$): no time ($n = 4$), relying on others ($n = 4$), long process to adopt ($n = 1$), no commitment ($n = 6$), no support ($n = 1$), done but not submitted ($n = 1$), staffing issues ($n = 2$), and postponed items ($n = 1$). See Table 5. The set of eight themes were analyzed using cross-tabulations against all other variables to establish relationships among the variables. The cross-tabulations analysis did not find significant relationships between the variables.

Table 5

*Content Analysis Results for Specify Your Plan or Why You Do Not Have a Plan (Q6a)*

<table>
<thead>
<tr>
<th>Content Analysis Theme</th>
<th>%</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Commitment</td>
<td>30%</td>
<td>6</td>
</tr>
<tr>
<td>No Time</td>
<td>20%</td>
<td>4</td>
</tr>
<tr>
<td>Relying on Others</td>
<td>20%</td>
<td>4</td>
</tr>
<tr>
<td>Staffing</td>
<td>10%</td>
<td>2</td>
</tr>
<tr>
<td>Long Process to Adopt</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>No Support</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>Done, but not Submitted</td>
<td>5%</td>
<td>1</td>
</tr>
<tr>
<td>Postponed</td>
<td>5%</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note.* Total number of respondents = 20.
Because six respondents mentioned “no commitment” in their response to the question of “Specify your plan or why you do not have a plan to complete your action item(s)” (Q6a), a cross-tabulations was conducted on all respondents’ answers to Q7, “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” to all other variables. The cross-tabulations analysis yielded 18 variables with significant relationships.

1. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “Have you completed any of the action items you committed to?” (Q5) found a significant relationship ($n = 64$, Pearson Chi-square = .011). Those who said they were “somewhat committed” ($n = 14$) or “very committed” ($n = 19$) would likely have completed the action items.

2. A significant relationship ($n = 56$, Pearson Chi-square = .000) was found in the cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have chosen to implement a small manageable action item in my park” (Q9.1). The likelihood is high that those who responded “very committed” ($n = 13$) would respond, “strongly agree” in regards to choosing a small manageable action item to implement.

3. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “Working on the action items has been a satisfying experience” (Q9.4) found a significant relationship ($n = 56$, Pearson Chi-square = .000). Those who said they were “somewhat committed” ($n = 9$) or “very committed” ($n = 10$) would likely to “agree” that working on the action items has been satisfying experience.
4. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “The action items determined at the workshop do not apply to my park” (Q9.5) found a significant relationship ($n = 57$, Pearson Chi-square = .000). Those who are “very committed” ($n = 13$) are more likely to “strongly disagree.”

5. A significant relationship ($n = 59$, Pearson Chi-square = .011) was found in a cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have been able to share the information gained at the workshop in a staff meeting” (Q9.9). Those who are “very committed” ($n = 10$) are more likely to respond with “strongly agree.”

6. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have been a leader in implementing the action items from the workshop in my park this year” (Q10.10) found a significant relationship ($n = 52$, Pearson Chi-square = .017). Those who responded “very committed” ($n = 10$) would likely “agree” about being a leader in implementing action items.

7. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have assessed current practices in my own park that relate to the working group I was involved with at the workshop” (Q10.11) found a significant relationship ($n = 54$, Pearson Chi-square = .001). Those who responded “very committed” ($n = 13$) would likely “agree” about assessing current practices.
8. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have built upon existing educational/interpretive programs with information from the workshop” (Q10.12) found a significant relationship \( (n = 52, \text{Pearson Chi-square} = .000) \). Those who responded “very committed” \( (n = 14) \) would likely “agree” about building upon existing programs.

9. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I am developing materials or programs to implement in my park in 2010” (Q.10.13) found a significant relationship \( (n = 51, \text{Pearson Chi-square} = .000) \). Those who responded “somewhat committed” \( (n = 10) \) and “very committed” \( (n = 12) \) would likely “agree” about developing materials or programs.

10. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have increased information provided to the public about Climate Change or Ocean Stewardship” (Q.10.16) found a significant relationship \( (n = 54, \text{Pearson Chi-square} = .000) \). Those who responded “very committed” \( (n = 9) \) or “somewhat committed” \( (n = 10) \) would likely “agree” about informing the public about Climate Change or Ocean Stewardship.

11. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have increased my communication with park partners about important topics relating to my park” (Q.10.18) found a significant relationship \( (n = 55, \text{Pearson Chi-square} = .004) \). Those who responded “very committed” \( (n = 12) \) or “somewhat committed” \( (n = 13) \) would likely “agree” about increasing communication with park partners.
12. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have attempted to involve local school districts in developing curriculum” (Q. 10.19) found a significant relationship ($n = 47$, Pearson Chi-square = .002). Those who responded “very committed” ($n = 10$) would likely “agree” about attempting to involve local school districts.

13. A significant relationship ($n = 49$, Pearson Chi-square = .000) was found in the cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have worked with other divisions in my park to complete an action item from the workshop” (Q.10.20). Those who responded “very committed” ($n = 8$) or “somewhat committed” ($n = 8$) would likely “agree” about working with other divisions.

14. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have relied on expertise of members of my working group to implement new programs or adapt existing programs” (Q11.23) found a significant relationship ($n = 55$, Pearson Chi-square = .004). Those who responded “very committed” ($n = 6$) would likely “agree” about relying on expertise of members of their working groups.

15. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I am supporting other members of my working group as they implement action items in their parks this year” (Q11.24) found a significant relationship ($n = 50$, Pearson Chi-square = .002). Those who
responded “very committed” \((n = 8)\) would likely “agree” about supporting other members.

16. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “Using larger resources (best practices, specific guides, etc.) has allowed me to be more effective at my own job” (Q11.26) found a significant relationship \((n = 53, \text{Pearson Chi-square} = .000)\). Those who responded “very committed” \((n = 12)\) would likely “agree” about using larger resources.

17. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “My workload has not allowed me to use the information from the workshop in my park” (Q11.28) found a significant inverse relationship \((n = 51, \text{Pearson Chi-square} = .009)\). Those who responded “very committed” \((n = 10)\) would likely “disagree” about workloads.

18. Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “I have informed my park leadership of my team’s successes in order to gain support of implementing the same practices before 2016” (Q.11.30) found a significant relationship \((n = 48, \text{Pearson Chi-square} = .000)\). Those who responded “very committed” \((n = 6)\) and “somewhat committed” \((n = 5)\) would likely “agree” about informing park leadership to gain support.

In regards to support by supervisors the question “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) found the majority \((n = 57, 86.4\%)\) responded “yes” with 13.6% reporting “no” \((n = 9)\). Of the respondents who answered “no,” a follow up question, “If no, why not?” (Q8a) was asked. A second content analysis uncovered the following themes \((n = 15)\): “In a new
position” \( (n = 5) \), “no discussion with supervisor” \( (n = 3) \), “have a new supervisor” \( (n = 2) \), “no money” \( (n = 1) \), and “partner goals are priority” \( (n = 1) \). See Table 6.

Table 6

*Content Analysis Results for the Question “If No [Support from Supervisor], Why Not?” (Q8a)*

<table>
<thead>
<tr>
<th>Content Analysis Theme</th>
<th>%</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a New Position</td>
<td>33%</td>
<td>5</td>
</tr>
<tr>
<td>No Discussion with Supervisor</td>
<td>20%</td>
<td>3</td>
</tr>
<tr>
<td>Have a New Supervisor</td>
<td>13%</td>
<td>2</td>
</tr>
<tr>
<td>No Money</td>
<td>6%</td>
<td>1</td>
</tr>
<tr>
<td>Partner Goals are Priority</td>
<td>6%</td>
<td>1</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>20%</td>
<td>3</td>
</tr>
</tbody>
</table>

*Note.* Total number of respondents = 15.

For further analysis, cross-tabulations were conducted on each of the questions (Q8 and 8a) against the other variables. The cross-tabulations analysis on “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) against all other variables yielded ten variables with significant relationships.

1. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “How long have you been in your current position?” (Q2) found a significant relationship \( (n = 63, \text{Pearson} \)
Chi-square = .049). The longer a person is in their position ($n = 23$ of 7 or more years) the higher likelihood for perceived support from a supervisor.

2. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “I have built upon existing educational/interpretive programs with information from the workshop” (Q10.12) found a significant relationship ($n = 51$, Pearson Chi-square = .004). Those who responded “yes” ($n = 30$) to support from supervisor are more likely to report, “agree” about building on existing programs.

3. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “I have created new educational or interpretive programs based on the information gathered at the workshop” (Q10.14) found a significant relationship ($n = 49$, Pearson Chi-square = .019). Those who responded “yes” ($n = 21$) to support from supervisor are more likely to report, “agree” about creating new programs.

4. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “I have worked with other divisions in my park to complete an action item from the workshop” (Q10.20) found a significant relationship ($n = 48$, Pearson Chi-square = .013). Those who responded, “yes” ($n = 18$) to support from supervisor are more likely to “agree” about working with other divisions.

5. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “The ideas presented at the workshop have encouraged me to empower my co-workers to work
collaboratively within our division, cross-division, cross-park, and bi-regionally” (Q11.21) found a significant relationship \( (n = 49, \text{Pearson Chi-square} = .020) \). Those who responded “yes” \( (n = 18) \) to support from supervisor are more likely to “agree” about empowering co-workers to work collaboratively.

6. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “I have relied on expertise of members of my working group to implement new programs or adapt existing programs” (Q11.23) found a significant inverse relationship \( (n = 53, \text{Pearson Chi-square} = .007) \). Those who responded “yes” \( (n = 16) \) to support from supervisor are more likely to “disagree” about relying on expertise of members of their working group.

7. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “I am supporting other members of my working group as they implement action items in their parks this year” (Q11.24) found a significant relationship \( (n = 49, \text{Pearson Chi-square} = .002) \). Those who responded “yes” \( (n = 12) \) to support from supervisor are more likely to “agree” about supporting other members of their working group.

8. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “Using larger resources (best practices, specific guides, etc.) has allowed me to be more effective at my own job” (Q11.26) found a significant relationship \( (n = 52, \text{Pearson Chi-square} = .000) \). Those who responded, “yes” \( (n = 21) \) to support from supervisor are more likely to “agree” about using larger resources.
9. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “My supervisor has granted more financial support to work on projects adopted from the workshop” (Q11.27) found a significant inverse relationship ($n = 47$, Pearson Chi-square = .024). Those who responded “yes” ($n = 15$) to support from supervisor are more likely to “disagree” about receiving more financial support from a supervisor.

10. Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “I have informed my park leadership of my team’s successes in order to gain support of implementing the same practices before 2016” (Q11.30) found a significant relationship ($n = 47$, Pearson Chi-square = .018). Those who responded “yes” ($n = 14$) to support from supervisor are more likely to “agree” about informing park leadership to gain support.

The cross-tabulations between “If no, why not” (Q8a) and all other variables yielded two significant relationships.

1. Cross-tabulations between “If no, why not?” (Q8a) and “Working on the action items has been a satisfying experience” (Q9.4) found a significant relationship ($n = 8$, Pearson Chi-square = .014). Those who identified “in a new position” ($n = 3$) would likely “agree” that working on the action items has been a satisfying experience.

2. Cross-tabulations between “If no, why not?” (Q8a) and “The ideas presented at the workshop have encouraged me to empower my co-workers to work collaboratively within our division, cross-division, cross-park, and bi-regionally” (Q11.21) found a significant relationship ($n = 8$, Pearson Chi-square = .020). Those who responded “have a
new supervisor” \((n = 2)\) and “no money” \((n = 1)\) would likely “disagree” about empowering co-workers to work collaboratively.

**Exploratory Factor Analysis**

Within the 62 variables, thirty “I” statement questions were asked based on comments from prior evaluations. The set of thirty statements were analyzed using an exploratory factor analysis to determine if there were commonalities among the series of thirty statements. Upon completion of the factor analysis, two factors were extracted. They were labeled as follows: (I) *Workshop Outcomes*, defined by independent variable measures of clear direction, satisfying experience, incorporated info, followed up contacts, relied on expertise, felt supported by group, and informed park leaders; (II) *Workshop Progress*, defined by the independent variable measures of able to share, assessed current practices, developed materials, informed park visitors, increased information to the public, strengthened park partners, increased communication, attempted to involve, and worked with other divisions. The first factor consists of seven variables, and the second consists of nine variables. All other variables loaded in both components and were excluded. See Table 7.

**Results Beyond the Scope of the Study**

As mentioned in Chapter III, the Progress Update Survey consisted of questions not only used for this thesis topic but to generate feedback to be evaluated before the Pacific West Region may implement future workshops. Analysis on the dependent variables of commitment, support, and no support yielded statistically significant relationships with independent variables outside the scope of the study. The results are as follows.
Table 7

*Exploratory Factor Analysis Results for 30 “I” Statement Questions*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Name</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Workshop Outcomes</td>
<td>Q9.2, Q9.4, Q9.8, Q11.22, Q11.23, Q11.25, Q11.30</td>
</tr>
<tr>
<td>2</td>
<td>Workshop Progress</td>
<td>Q9.9, Q10.11, Q10.13, Q11.15, Q11.16, Q11.17, Q11.18, Q11.19, Q11.20</td>
</tr>
</tbody>
</table>

*Note.* Fourteen “I” statements loaded in both factors.

- Cross-tabulations between “How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?” (Q7) and “Based on Objective 3 above (learn at least 12 new tools): Within six months after the workshop, have you used at least 6 of those tools for at least six months?” (Q20b) found a significant relationship ($n = 51$, Pearson Chi-square = .047). Regardless of commitment levels, 72.5% of the respondents ($n = 37$) have not used at least six of the tools learned at the workshop.

- Cross-tabulations between “Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?” (Q8) and “Have you adopted any best practices that you learned about at the workshop?” (Q21) found a significant relationship ($n = 47$, Pearson Chi-square = .050). Those who responded “yes” ($n = 22$) to support from supervisor are more likely to say “yes” to adopting best practices learned at the workshop.
Cross-tabulations between “If no, why not?” (Q8a) and “Were the goals of the AKR-PWR Centennial Workshop met, Goal 2: We will enhance our collaboration for interpreting the critical issues of our regions by providing opportunities for parks with similar issues or complementary skills to focus on shared projects and apply best practices and lessons learned from current success” (Q18b) found a significant relationship (\(n = 10\), Pearson Chi-square = .040). Those who reported, “have a new supervisor” (\(n = 2\)), “no money” (\(n = 1\)), and “partner goals are priority” (\(n = 1\)) are likely to “disagree” that goal two was met.

Summary of Results

The purpose of the study was to identify perceived barriers to adopting innovation. Descriptive statistics provide a general overview of the sample population and a baseline for further analysis. The results of this study indicate that there are statistically significant relationships as found by cross-tabulations of the dependent variables of commitment, support, and no support. The exploratory factor analysis extracted two hypothetical factors of Workshop Outcomes and Workshop Progress, which may explain barriers to adopting innovation in this case study. Conclusions, limitations, and recommendations are discussed in Chapter V.
CHAPTER V

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

The purpose of this study was to identify the barriers of adopting innovation from a participant’s perspective following the AKR-PWR Centennial Workshop. Of the 180 participants of the workshop, 71 completed a 22 question Progress Survey approximately nine months after the workshop. The survey was administered over the span of two weeks using Survey Monkey during the tourist season of the represented national parks.

This chapter discusses the conclusions of the research question; what are the identified barriers to adopting innovation, specifically action items, among participants of the AKR-PWR Centennial Workshop? This chapter also includes the limitations of the findings of the study, and provides recommendations for future research.

Conclusions

Research Question

What are the identified barriers to adopting innovation, specifically action items, among participants of the AKR-PWR Centennial Workshop?

Results of this thesis indicate there was statistical significance in the relationships between a few dependent variables and several independent variables, yet
the outcomes are surprising. The focus of this study was on the barriers to adopting innovation, yet the analysis found more facilitators than barriers of adopting innovation.

The findings on communication as a barrier were found to be opposite than in previous studies (Henderson et al., 2008; Jacobson et al., 2006; Weiss, 1980) that have reported communication as a barrier within individuals, organizations, and systems. The results of commitment in this case study found those who were very committed to continuing the efforts of the AKR-PWR Centennial Workshop were also highly likely to have increased communication with the public, increased communication with park partners, attempted to involve local schools in developing curriculum, worked with other divisions within the park, and informed park leaders of team success to gain future support for implementing a similar program in his/her park. Although most respondents were very committed, those that indicated “somewhat uncommitted” may likely have increased communication with the public, increased communication with park partners, and attempted to involve local schools in developing curriculum in order to meet a specific need within his or her park.

In addition, several previous studies discussed the impact of logistical barriers of adopting an innovation, and specifically lack of time or workload (Henderson et al., 2008; Hooper, 1980; Jacobson et al., 2006; Van Every, 1983). The results from this study indicate that workload was not considered to be a barrier in adopting innovation. In this study, respondents that were very committed were also highly likely to not perceive his or her workload to prevent the use of information received from the workshop in his or her park. Although, four of the seventy-one respondents mentioned “no time” as a barrier
to completing his or her action items, it is not a sufficient response rate to warrant “no
time” as a barrier to adopting innovation.

In previous studies on the barriers of adopting innovation, demographic
variables were analyzed for their influence on adopting innovation. Specifically, gender
and tenure was found to have no significant relationship on the adoption of innovation in
studies on adoption of innovation by Damanpour and Schneider (2006) and Weiss
(1980). The personal characteristics such as gender and tenure were not perceived
barriers in this case study.

The results indicating barriers stemmed from the first of two open-ended
questions; “Specify your plan or why you do not have a plan to complete your action
items.” (Q6a). The content analysis resulted in the identification of eight possible barriers
with “no commitment” being the most common among respondents, with “no time,”
“relying on others,” and “staffing” as additional barriers listed. The response of “no
commitment” was not acknowledged specifically in previous studies mentioned in this
thesis, but would most likely fit under the barriers of “personnel limitations” (Machlis &
Harvey, 1993; Van Every, 1983), “receptivity” (Weiss, 1980, p. 234), and “attitudinal”
(Jacobson et al., 2006, p. 1516).

Support from supervisors has been seen as a barrier to adopting innovation
(Ham & Weiler, 2004). Within the realm of this study, perceived support from
supervisors was reported at an overwhelming level of 86.4% (n = 57). Yet the ability for
an employee or volunteer of this study to make the decision to adopt innovation was not
found to have any statistical significance. The level of perceived support from
supervisors does have a relationship with several of the variables, including length a
person has been in his or her position and the likelihood of financial support from a supervisor.

The second open-ended question of “If no [support from your supervisor], why not?” yielded additional support for “staffing” barriers found in Q6a due to the respondents response of “In a new position,” and “new supervisor.” Of the previous studies on barriers to adopting innovation, Henderson et al. (2006) mentioned “inexperienced staff and turnover” as a barrier within the individual category of barriers (p. 34). In this study, the longer a respondent was in his or her current position, then the higher the likelihood of supervisor support for implementing the innovation. Inexperienced staff, less than one year in the current position, resulted in a higher response of no support. In addition, this study supported the findings of Seffrin et al. (2008) and Hooper (1980) in that staffing and change of staffing positions are barriers to adopting innovation. Within government organizations, specifically the National Park Service, positions open frequently for employees to move laterally and vertically within the organization. In addition, as Hall and Hord (2001) mentioned in their analysis of education policy change, the sense of urgency to implement new innovations is high among newly elected officials. Therefore, both people and policies can change rapidly.

The two extracted factors, Workshop Outcomes and Workshop Progress from the exploratory factor analysis, provide insight to possible barriers on the adoption of innovation. The first factor, Workshop Outcomes, included overlap of items focused on meeting the purpose, goals, or objectives of the AKR-PWR Centennial Workshop. When looking at frequencies for similarities between the variables, the majority of each of the question statements was neutral or negative in tone, “neither disagree or agree” or
“disagree.” A negative overtone to the response may indicate how the purpose, goals, and objectives determined prior to the workshop may have been barriers in themselves to completing the action items. This hypothetical finding supports Jacobson et al.’s (2006) assessment that logistical barriers are the most significant, in which clear goals and objectives are needed in order to promote adoption.

The second exploratory factor analysis result, Workshop Progress, refers to the overlap in question statements that refer to taking the information gained from the workshop and providing it in one method or another to additional staff, park partners, and the public. All of the variables included in this hypothetical factor were positive, meaning the majority of the frequencies were “agree.” Regardless of the adoption of the innovation, action items, from the workshop, participants were using the information learned to educate others and further their own park’s priorities. Participants may have felt the content learned at the workshop was fitting to the needs of his or her park and was relatively easy to understand. This assumption relates directly to Ham and Weiler’s (2004) confirmation of Rogers and Shoemaker’s (1971) analysis, that during the knowledge stage, compatibility and complexity of an innovation are the most important attributes.

Limitations

Of all the limitations of this case study, sample size of the population was the biggest challenge. The AKR-PWR Centennial Workshop consisted of 180 participants representing over fifty national parks, historic sites, partner organizations, and students. CSU, Chico students may or may not have participated in the working groups and
therefore may not have completed the survey completely. In addition, the timeframe of
when the survey was administered occurred during the tourist season in which may have
impacted the response rate. Of those participants, 71 participants began the survey with
only 55 providing complete surveys. A larger sample size would add more generalization
of the results to other similar populations.

The distance between each participant and the researcher prevented the survey
from being administered in person resulting in a limitation in response rate. The use of
Survey Monkey was advised by the Regional Chief of Education and Interpretation from
the Pacific West Region of the National Park Service in order to reach all of the
participants but it resulted in a response rate of 39.4%. Administering the survey in
person would possibly increase the response rate.

The time lapse between the six-month target date determined at the workshop
and the two-week administration of the Progress Update Survey was a limitation on the
researcher’s behalf. The AKR-PWR Centennial Workshop was conducted November 6-8,
2008, and the workshop planning committee determined that six-month post workshop
was an adequate marker for evaluating whether or not the goals and objectives of the
workshop were met. The six-month target date was May 8, 2009 and the Progress Update
Survey was administered on September 1, 2009. The time lapse of four months may have
had an impact on participant’s recall of events and decisions made at the workshop.
Providing the survey closer to the six-month target date may have resulted in a higher
response rate and more depth to the data.

An additional limitation due to the low response rate was the outcome of the
exploratory factor analysis. Factor analysis is a test designed for large sample sizes,
which adds reliability to the test. By conducting an exploratory factor analysis on the smaller sample size, the factors of Workshop Outcomes and Workshop Progress, are hypothetical, and cannot be used as variables in future research.

A final limitation was in the development of the Progress Update Survey. By creating a new survey rather than using an existing survey on barriers, the questions yielded a much more positive tone in answers than negative. The results supported a study that may have been conducted on facilitators of adopting innovation rather than on the barriers of adopting innovation. Although some barriers were identified, the results from the entire survey provided overwhelming evidence of facilitators of adoption.

Recommendations

Recommendations for future research are based on the limitations and results of this study.

Since this thesis was a case study observing the behaviors of an isolated population, participants of the AKR-PWR Centennial Workshop, the first recommendation is to observe a larger sample size of the same population to establish a higher response rate and stronger empirical data. Using a workshop or conference with a larger attendance may provide a larger response. An additional suggestion would be to collect responses from participants within the timeframe established by the goals and objectives of the future workshop.

A second recommendation is to use an established instrument designed to measure the barriers of adopting innovation. Trying to incorporate questions developed from data from qualitative and quantitative evaluations obtained during and post
workshop by the planning committee, unsolicited feedback from participants and workshop planning meeting notes, may have obscured or minimized the questions posed in the survey. A survey centered completely on the barriers of adopting an innovation may be more effective than a survey including additional workshop evaluation questions. The additional twelve questions generated for use to implement future workshops may have affected the outcome of the response rate because it added length to the survey. Further, questions that were dually loaded in this study could be removed from the next study due to insignificant findings.

Research results indicate further research could be conducted on agency structure as an organizational barrier to adopting innovation. Within a government organization, employees shift positions laterally and vertically when opportunities open. In addition, the agendas of higher, political officials may cause strategic plans to shift with the new incoming officials (e.g., President, Secretary of the Interior, and Director of the National Park Service). The impact of the frequent turnover of all types of positions may have an impact on the adoption of innovation within the agency.

A second and final research recommendation would be to examine the relationship between workshop participant’s commitment to the purpose, goals, and objectives pre- and post-workshop. Understanding the motivation behind attending a workshop and the commitment levels before, during, and after the workshop may reveal more information about the barriers to adopting an innovation. Further, an investigation of the change agent’s motives for a strategic planning workshop and the communication of those motives to participants may be another way to measure barriers within an organization.
Summary

The conclusions, limitations, and recommendations of this study portray the initial purpose of this study to identify participants’ perceptions of the barriers to adopting innovation, specifically action items created within the AKR-PWR Centennial Workshop in November of 2008. Further investigations on the barriers of adopting innovation are still needed across all disciplines but especially within leisure studies.
REFERENCES
REFERENCES


doi:10.1007/s10597-008-9151-x


EMAIL CORRESPONDENCE FROM PWR

CHIEF OF EDUCATION AND
INTERPRETATION

Initial Invitation to Participate Email Correspondence:

“8/31/09
Hello AKR-PWR Centennial Workshop Participants,
We are fortunate to have Susan Barnett continuing to work with us on the follow-up evaluation of the amazing work we did at Fort Vancouver last fall. She has developed a questionnaire, in consultation with her graduate thesis advisors, which will give us information on the longer term results of the workshop. Since the workshop was a new design for us, with emphasis on collaboration on-site and in follow-up action plans, we want to learn what worked and where we need to adjust our design and support. Please take a little time to complete the online survey for us, by September 16.

Below is the consent letter from CSU, Chico.
Thank you for your participation and helping us to build on the success of the workshop.
Deanne and the workshop committee

(if the blue survey link above doesn't work, copy and paste this into your web browser)
https://www.surveymonkey.com/s.aspx?sm=MUdw3MUd8RWm60LlwLRYTg_3d_3d"

Midway Email Reminder to Participants:

“9/9/09
Hello AKR-PWR Centennial Workshop Participants,
We have 30 responses to the evaluation survey so far. We had 177 participants at the workshop (including students) so we'd sure like to hear from more of you. Please take a few minutes to share your experience and help us learn and apply that to our next workshop. This will also help us justify funding for a workshop in FY12.
Thanks!
Deanne”
CONSENT LETTER

August 26, 2009

Dear AKR-PWR Centennial Workshop Participant:

You are invited to participate in a research study for my master’s thesis at California State University, Chico. The purpose of the study is to understand why or why not innovation created at a strategic planning workshop is adopted.

I am inviting you to be in this study because you were a participant at the AKR-PWR Centennial Workshop at Fort Vancouver in November of 2008. Your regional chiefs, Brad Bennett and Deanne Adams, have agreed to allow me to contact you for my thesis subject population.

If you agree to participate, I would like you to answer the questionnaire through Survey Monkey by clicking on the link in the email from Deanne Adams. The questionnaire has qualitative and quantitative questions, which may take you between 15 minutes to 30 minutes to complete.

I will keep the information you provide confidential, however federal regulatory agencies and California State University, Chico Review Board (a committee that reviews and approves research studies) may inspect and copy records pertaining to this research. All completed online surveys will be anonymous.

There are no known risks from being in this study, and you will not benefit personally. However, I hope that others may benefit in the future from what I learn as a result of this study. Results of the study will be shared with all the participants of the AKR-PWR Centennial Workshop as well as other National Park Service employees and Park Partners.

Taking part in this research study is completely voluntary. If you decide not to be in this study, or if you stop participating at any time, you won’t be penalized or lose any benefits for which you otherwise qualify.

If you have any questions about the research study itself, please contact Susan Barnett, Dr. Laura McLachlin, or Deanne Adams at the information below.

Thank you very much for your consideration. The completion of the online survey indicates your consent of participation in this study.

Sincerely,

Susan Barnett, Primary Investigator
Recreation Administration Graduate Student
PROGRESS UPDATE SURVEY

Evaluation of the outcomes of the AKR-PWR Centennial Workshop is essential for determining the effectiveness of bi-regional, multi-park collaborative processes. The following questions are based on the progress of actions post-workshop, reflections of the collaborative process, and the goals and objectives of the workshop.

1. I participated as:
   a. NPS Employee (paid classification)
   b. Partner Employee
   c. NPS Volunteer (including CSU, Chico Students)
   d. Partner Volunteer

2. How long have you been in your current position?
   a. Less than one year
   b. One to three years
   c. Three to seven years
   d. Seven to twelve years
   e. Twelve to twenty years
   f. More than twenty years

3. What is your gender?
   a. Female
   b. Male

Action Items

4. How many action items did you commit to at the workshop?
   a. 0
   b. 1
   c. 2
   d. 3
   e. 4
   f. 5
   g. 6
   h. 7
   i. 8
   j. 9
   k. 10
   l. Don’t know
5. Have you completed any of the action items you committed to?
   a. Yes  b. No

6. If you answered “no” to number 5, do you have a plan to complete your action items?
   a. Yes  b. No
   c. Open Response: Please specify your plan or why you do not have a plan to complete your action item(s).

Commitment to Centennial Projects

The AKR-PWR Centennial Workshop was the first bi-regional effort toward implementing best practices for the Centennial in 2016. Several best practices were identified at the workshop within each working group and committed to by individuals.

7. How committed are you to continuing the efforts of the AKR-PWR Centennial Workshop projects?
   a. Very committed  d. Somewhat uncommitted
   b. Somewhat committed  e. Very uncommitted
   c. Neither committed or uncommitted

8. Do you have support from your supervisor to continue the efforts of the AKR-PWR Centennial Workshop?
   a. Yes  b. No
   c. Open response: If no, why not?
Reflection Statements

9. Please rate the following statements on a scale of 1 to 5 (1 is strongly agree; 5 is strongly disagree). Over the last 9 months:

1. I have chosen to implement a small manageable action item in my park.
   1 2 3 4 5 N/A

2. I have a clear direction of what needs to happen in my park as it relates to the Centennial activities.
   1 2 3 4 5 N/A

3. I have thought about the identified best practices (or better practices) from the workshop as it relates to my park but have not taken action on them at this time.
   1 2 3 4 5 N/A

4. Working on the action items has been a satisfying experience.
   1 2 3 4 5 N/A

5. The action items determined at the workshop do not apply to my park.
   1 2 3 4 5 N/A

6. I have not been involved with the working group action items since leaving the workshop.
   1 2 3 4 5 N/A

7. I have already completed my action items and am no longer focusing on the workshop.
   1 2 3 4 5 N/A

8. I have incorporated information gained at the workshop in staff orientations and/or trainings.
   1 2 3 4 5 N/A

9. I have been able to share the information gained at the workshop in a staff meeting.
   1 2 3 4 5 N/A

10. Please rate the following statements on a scale of 1 to 5 (1 is strongly agree; 5 is strongly disagree). Over the last 9 months:

10. I have been a leader in implementing the action items from the workshop in my park this year.
    1 2 3 4 5 N/A
11. I have assessed current practices in my own park that relate to the working group I was involved with at the workshop.

12. I have built upon existing educational /interpretive programs with information from the workshop.

13. I am developing materials or programs to implement in my park in 2010.

14. I have created new educational or interpretive programs based on the information gathered at the workshop.

15. I have informed park visitors about existing programs at other parks that I learned about at the Centennial workshop.

16. I have increased information provided to the public about Climate Change or Ocean Stewardship.

17. I have worked to strengthen my relationship with park partners.

18. I have increased my communication with park partners about important topics relating to my park.

19. I have attempted to involve local school districts in developing curriculum.

20. I have worked with other divisions in my park to complete an action item from the workshop.

11. Please rate the following statements on a scale of 1 to 5 (1 is strongly agree; 5 is strongly disagree). Over the last 9 months:

21. The ideas presented at the workshop have encouraged me to empower my co-workers to work collaboratively within our division, cross-division, cross-park, and bi-regionally.
22. I have followed up with the contacts that I made at the workshop via phone, Sharepoint, or email.  
1 2 3 4 5 N/A

23. I have relied on expertise of members of my working group to implement new programs or adapt existing programs.  
1 2 3 4 5 N/A

24. I am supporting other members of my working group as they implement action items in their parks this year.  
1 2 3 4 5 N/A

25. I have felt supported by my fellow working group members since the workshop.  
1 2 3 4 5 N/A

26. Using larger resources (best practices, specific guides, etc.) have allowed me to be more effective at my own job.  
1 2 3 4 5 N/A

27. My supervisor has granted more financial support to work on projects adopted from the workshop.  
1 2 3 4 5 N/A

28. My workload has not allowed me to use the information from the workshop in my park.  
1 2 3 4 5 N/A

29. I have given up time on other projects to complete the actions determined at the workshop.  
1 2 3 4 5 N/A

30. I have informed my park leadership of my team’s successes in order to gain support of implementing the same practices before 2016.  
1 2 3 4 5 N/A

Collaboration Efforts

12. Please rate your responses to the following questions on a scale of 1 to 5 (1 is very engaged/committed; 5 is not engaged/committed).

How engaged was your working group at the workshop?  
1 2 3 4 5

How engaged was your working group post-workshop?  
1 2 3 4 5
How committed was your working group at the workshop to the action items identified? 1 2 3 4 5

How committed was your working group post-workshop? 1 2 3 4 5

13. Based on the overall workshop evaluation completed in March, almost 54% of the total respondents \( (n=85) \) felt the working groups were effective. In your opinion, what made the working groups effective?
   a. Open Response

14. In the same evaluation, almost 20% of the respondents felt the working groups were not effective. What, in your opinion, made the working groups ineffective?
   a. Open Response

15. At the workshop, how many relationships did you form that have helped you accomplish Centennial projects in 2009?
   a. 0  h. 7
   b. 1  i. 8
   c. 2  j. 9
   d. 3  k. 10
   e. 4  l. 11
   f. 5  m. 12
   g. 6  n. 13+

**Workshop Purpose and Goals**

16. Do you feel the purpose of the workshop was clear?
   a. Yes
   b. No
17. During the first day of the workshop, more than half of the participants felt the workshop process was unclear to them. If asked about the process now by a fellow colleague who did not attend, how would you describe the workshop process used at the AKR-PWR Centennial Workshop?

a. Open Response

18. Were the goals of the AKR-PWR Centennial Workshop met?

Goal 1: We will build our capacity to model and interpret environmental sustainability in our parks, with stakeholders, and in nearby communities.

Goal 2: We will enhance our collaboration for interpreting the critical issues of our regions by providing opportunities for parks with similar issues or complementary skills to focus on shared projects and apply best practices and lessons learned from current success.

Goal 3: We will identify and describe action items and metaphorical models that help each park to accomplish its Centennial projects/strategies following the workshop.

19. Were the objectives of the AKR-PWR Centennial Workshop met?

Objective 1: The group will have worked collaboratively with other colleagues/partners to develop 12 implementation plans that support the three themes of Ocean Stewardship, Engaging Youth, and Climate
Objective 2: Each participant will personally develop enduring relationships with at least 3 new colleagues that will be mutually beneficial in accomplishing Centennial projects in 2009.

Objective 3: Each participant will learn at least 12 new tools (best or better practices) to add to their Centennial Tool Box.

20. Based on Objective 3 above (learn at least 12 new tools):
Within six months after the workshop, have you used at least 6 of the tools weekly?

Within six months after the workshop, have you used at least 6 of those tools for at least 6 months?

21. Have you adopted any best practices that you learned about at the workshop?
   a. Yes
   b. No

22. If yes, what are the best practices being used in your park that you learned about at the workshop?
   a. Open Response
APPENDIX B
United States Department of the Interior
NATIONAL PARK SERVICE
240 W. 5th Avenue
Anchorage, Alaska 99501

April 28, 2009

Re: Implementation of Innovation study (Susan Barnett)

Dear Human Subjects Review Board,

The Alaska Region of the National Park Service (NPS) comprises 16 units of the National Park System. Through an Act of Congress, the NPS is charged with providing for the enjoyment of these parks and monuments while preserving their resources and values for future generations. Much of this mission is accomplished through the public outreach work of our park rangers and education specialists.

In partnership with California State University, Chico, the NPS Alaska Region, agrees to provide potential subjects for the proposed study being conducted by the graduate student Susan Barnett in the Department of Recreation & Parks Management. We met Susan in the Fall of 2008 during her instrumental facilitation of a workshop with our education counterparts in the NPS Pacific West Region, held in Vancouver, Washington. We can help connect Susan with working groups that are currently underway within our two regions, if and when these individuals meet the research objectives. Furthermore, Susan Barnett may work closely with John Morris, Interpretive Specialist, and myself, the Chief of Interpretation and Education for the NPS Alaska Region.

If you have any questions, feel free to contact John Morris or myself. Thank you for your support of this important project.

Sincerely,

Brad Bennett     John Morris
Chief of Interpretation & Education  Interpretive Specialist
National Park Service  National Park Service
Alaska Regional Office  Alaska Regional Office
907 644-3371 office  907 644-3372 office
Brad_Bennett@nps.gov  John_Morris@nps.gov
April 28, 2009

Re: Implementation of Innovation study (Susan Barnett)

Dear Human Subjects Review Board,

The Pacific West Region of the National Park Service (NPS) comprises 58 units of the National Park System. Through an Act of Congress, the NPS is charged with providing for the enjoyment of these parks and monuments while preserving their resources and values for future generations. Much of this mission is accomplished through the public outreach work of our park rangers and education specialists.

In partnership with California State University, Chico, the NPS Pacific West Region, agrees to provide potential subjects for the proposed study being conducted by the graduate student Susan Barnett in the Department of Recreation & Parks Management. In the summer of 2008 Susan worked with a planning team from the Alaska and Pacific West Regions, as we developed a joint workshop for rangers and park partners working in the field of park education and interpretation. We met Susan during those workshop planning conference calls then and in-person at the November 2008 workshop where she lead a team of students in supporting and facilitating the success of our workshop.

We can help connect Susan with working groups that are currently underway within our two regions, if and when these individuals meet the research objectives. Susan Barnett may also work closely with me, as the Regional Chief of Interpretation and Education for the NPS Pacific West Region.

If you have any questions, feel free to contact me. Thank you for your support of this important project.

Sincerely,

Deanne L. Adams
Chief of Interpretation & Education
National Park Service
Pacific West Regional Office
510-817-1340 office
Deanne_Adams@nps.gov