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**Opportunities for Conversion to More Sustainable
Practices by Houses of Worship through Team Performance
Enhancing Strategies that Include Leadership with Facilitative Skills**

by

Carolina D. Saiz

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Dedication

I dedicate this work to my Parents, Luis (*in memoriam*) and Etelvina.

Abstract

This research focused on assessing the performance of teams of volunteers in Houses of Worship (HOWs) in the State of Massachusetts that are successfully planning, advancing and completing sustainable initiatives. The sustainable initiatives included solar photovoltaic (PV) installations, city public parks cleaning projects, efficient windows installations, efficient lighting fixtures installations, and building insulation improvements. The goal of this research was to assess the dynamics of a total of eight successful teams, including the relationships among team members and their leaders with facilitative skills that they perceived were instrumental to their effective and efficient performance. The role of team leadership was more relevant than anticipated, and it presented statistical interdependence with team interpersonal processes such as: collaboration, cooperation, cohesion, communication, coordination, trust, and especially conflict resolution. Based on this knowledge and qualitative data from interviews, a set of guidelines on “best practices” was produced, containing recommendations on how to build and manage HOW teams to conduct local sustainability projects.

Key words: sustainability best practices, team, leader with facilitative skills, House of Worship (HOW), solar energy, energy efficiency.

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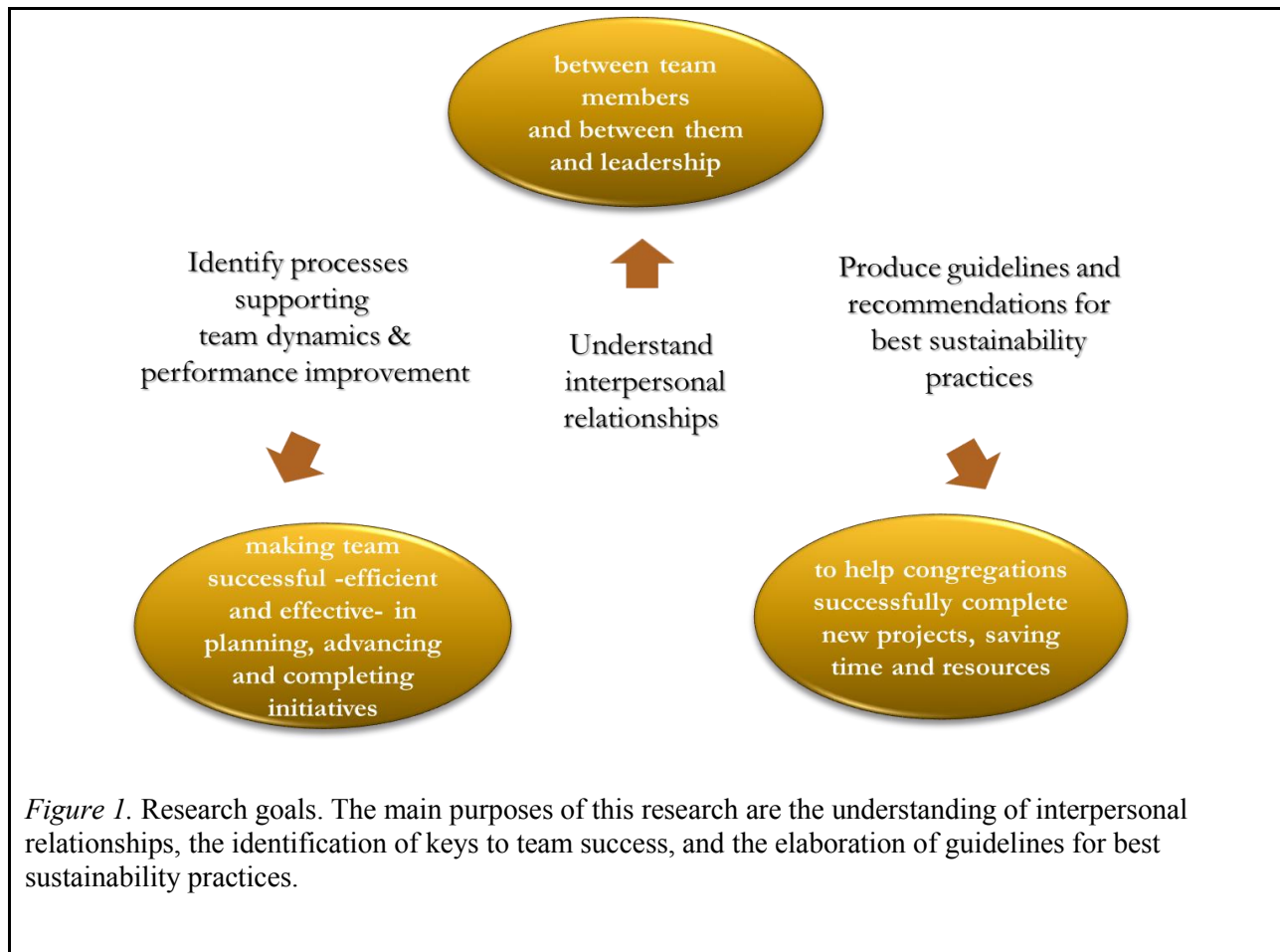
Chapter 1: Introduction

Many Houses of Worship (HOWs) in Massachusetts are addressing the environmental problems created by our carbon based economy, by making efforts to reduce their environmental footprint. They are also aware of their need to reduce consumption, minimize costs, and to find affordable ways to provide for their energy and other needs, while becoming progressively more sustainable. In his work, the term “sustainability” is understood under the United Nation’s Brundtland Commission's 1987 report definition of “sustainable development.” In such report, sustainable development is defined as a "... development which meets the needs of current generations without compromising the ability of future generations to meet their own needs" (United Nations Economic Commission for Europe –UNECE-, n.d.). Such concept supports strong economic and social development, and at the same time, it highlights the importance of protecting the natural resources and the environment, making efforts to maintain intergenerational solidarity in the use of our available resources.

Among the several sustainable initiatives intended to make their congregations “greener,” some HOWs have recently begun utilizing windows and lighting fixtures replacements, facility insulation improvements and community parks cleaning initiatives, as well as solar photovoltaic (PV) systems installations (Roseland, 2012; Lovins, 2011). Up to the present, several HOWs have already implemented those practices successfully, in most cases relying on the expertise and advice of Massachusetts Interfaith Power and Light (MIP&L), which is the State of Massachusetts chapter of Interfaith Power and Light (IPL). IPL is a faith based organization committed to the mission of protecting God’s Creation by promoting sustainability in HOWs of different religious denominations in the United States.

Research Goals, Questions, and Hypothesis

My research focuses on successful sustainable initiatives conducted by groups of volunteers or “teams” at different HOWs. The three main goals of this research include the understanding of interpersonal relationships, the identification of processes supporting team dynamics and performance improvement, and the production of guidelines and recommendations for future sustainable initiatives. Specifically, this research explores the relationships among team members and between the members and the team’s leader with facilitative skills, exploring how the positive improvements in those relationships help teams improve performance towards successfully implementing their goals. The research goals are graphically presented in Fig. 1.



The main question guiding this research focuses on the qualities or characteristics that make a team of volunteers successfully plan, conduct and complete a sustainable practice in a HOW in an effective and efficient manner. The research question is formulated as follows: *How do the interactions among the members of teams of volunteers, including their leaders with facilitative skills, in Houses of Worship, support the development of positive team dynamics and performance that directly leads to successful planning and implementation of sustainable initiatives.*

The following specific questions help to elucidate the main research question:

- How do the practices of a leader with facilitative skills enhance the process using the conceptual framework of “self-managed,” and “high performance teams?”
- What are the lessons learned by these teams as the result of the improvement of their team’s social dynamics and the successful implementation of their sustainable initiatives?

The teams of volunteers considered in this research are “self-managed” teams as defined by Thompson (2011). Team dynamics can be assessed through the “Interpersonal Processes” framework that is also referred to as the “6Cs and T” concepts developed by Yeatts and Hyten (1997). This “6Cs and T” framework includes: communication, coordination, cooperation, collaboration, conflict resolution, cohesion and trust. It has been shown that improvement to team dynamics allows the team to also improve performance, therefore approaching the “high performance” team model (Katz, 2009; Cook, 2009). The “facilitative leader” (Schwarz, 2005; Bacharach, 2009) is also part of the team, either formally appointed by other members or informally defined through team members’ interactions over time.

In this research, the role of the leader with facilitative skills is deemed as significant in the process of successfully planning and completing sustainable initiatives at the HOW level. For

this study, success is defined as a team's ability to be efficient in the use of their time and their financial and human resources, maximizing benefits and minimizing costs, and improving their capacity to achieve their goals. It should also be noted that there are external elements influencing a team's success, including institutional support, legislation and the global economy (for example, trends in the global energy markets). More details about the aforementioned concepts are included in Chapter 2.

I hypothesize that: *the improvement of interpersonal processes such as communication, coordination, cooperation, collaboration, conflict resolution, cohesion and trust, can improve team dynamics and performance with the support of the HOW team's leader with facilitative skills, who is also able to influence team members' enthusiasm and commitment to protect Creation, and guide this "self-managed" team towards being successful, approaching the "high performance" team model. This model will enhance the likelihood of success through enhancing team efficiency (maximization of the cost/benefit relationship in terms of money, human resources and time) and effectiveness (the capacity of achieving the team's goals), when implementing sustainable practices at the HOW level.*

The new knowledge emerging from this study informs recommendations for "best practices" based on the experiences of the teams who successfully implemented sustainable practices. It is hoped that HOW teams or teams in similar types of organizations committed to conducting sustainable practices in the future may benefit from these recommendations. In summary, a deeper understanding of team members' social dynamics along with the team members' relationships with their leader with facilitative skills is seminal to understanding processes that will enhance opportunities for success.

Research Process Overview and Identification of Case Study Sites

This research included seven HOW teams that completed solar PV systems installations and parks cleaning works, grouped into the COMPLETED case study. It also included one HOW team that was in the process of implementing three sustainable practices simultaneously, consisting of windows installation, lighting fixtures replacement and room insulation work. This last team was named ONGOING case study in this research. The HOWs included counted on highly motivated volunteers who undertook the initiatives as their own mission to protect Creation. Passion and conviction were significant motivators for those team members to develop their initiatives.

I developed a pilot project in an early phase of this research. This pilot research resulted in the identification of the seven HOWs to include in the COMPLETED case study and one HOW to serve as the ONGOING case study. It involved working with a group of different HOWs representatives, most of them belonging to the Episcopal Diocese of Massachusetts. This group included members of different teams that already completed solar PV installations, and they were seeking to engage other HOWs in the development of sustainable initiatives. The group was in charge of providing knowledge, experience and networks to help MIP&L in the process of advancing solar PV initiatives in the State of Massachusetts. This initial contact led me to identify a group of nine HOWs that was showcased as a pioneer in successful solar PV installations.

This pilot research project started after this research proposal was approved by the Antioch University New England Institutional Review Board. The first action was contacting members of the aforementioned group to request information about the successful nine HOWs. Their stories of success had been published as case studies in the Episcopal Diocese of

Massachusetts website (Sun-powered stewardship: Nine churches in the Diocese using solar energy, n.d.). In addition, a Sustainable Houses of Worship Workshop (SHOW) took place in Western Massachusetts, which provided an opportunity to observe the team interactions from these HOWs. SHOWs are instrumental to MIP&L, allowing this organization to spread the word and engage other HOWs in the process of becoming more sustainable. Several volunteers from different HOWs participated, interested in learning about solar PV installations, heating, ventilation and air conditioning (HVAC) upgrades and retrofitting, room insulation work, building temperature zoning, and windows and lighting fixtures replacements.

The preliminary data acquired for this pilot research project included publicly available information from each HOW's and MIP&L's websites, as well as press releases and other publications provided by HOWs' and MIP&L's representatives about HOWs sustainable initiatives in Eastern Massachusetts, and specifics about solar PV and other sustainable projects. An early question arose as to whether or not all HOWs' projects had a similar start or if each case had a particular approach to engaging their congregation. Another question focused on how these groups of volunteers managed to work together to bring those projects to a successful completion. On one hand, I was interested in the description of the processes and the technical aspects of the project development, and on the other, in the specifics of the dynamics and performance that characterized the people forming those groups, or teams, that made the process possible. Both types of knowledge would later help answer my research questions.

The initial interactions with the nine HOW teams and other individuals associated with MIP&L provided valuable data including contact information about individuals in positions of leadership. I also developed a semi-structured interview questionnaire and a survey that was submitted to a MIP&L representative as well as the Dissertation Committee for review. Using

the reviewed versions of both, the pilot study data collection phase started. The first step consisted of contacting each of the aforementioned nine HOW representatives or leaders, by e-mail and phone. Of the nine HOWs contacted, seven finally agreed to participate in this research. These seven sites are referred to as the COMPLETED case study in this dissertation research.

For privacy reasons, the real names of each HOW were changed by “HOW1” through “HOW7,” and each participant’s name was replaced by a nickname. The individuals contacted had been in a position of leadership, and they were potentially able to provide help to contact other team members that had also been involved. In some cases, I asked those leaders to gather participants for a short group meeting. In some cases, this was not possible since the teams did not exist anymore and no contact information was available. In those cases, only one or two original team members were available to participate in this research. I communicated and interacted with them directly for the data collection.

After this initial assessment involving HOW teams that have already completed the sustainable initiatives, assessing a team in the process of implementing sustainable initiatives became essential in order to analyze the evolution of group dynamics. Three potential teams were identified for this purpose: the first one was in its early stages of the decision making process for solar installation; the second was mostly focused on sustainable or “green” investment. Finally, the third team was conducting the three aforementioned sustainable initiatives simultaneously, the windows, the lighting and the room insulation works. Because their ongoing status and the fact that their initiatives were comparable to the ones this research includes, I selected the third team, that consisted in a very proactive and enthusiastic group of people that called themselves the “Energy Team” in their Congregation. I contacted the team

through their leader, and they responded positively to participate in this research. This site is referred to as the ONGOING case study in this dissertation research.

Description of Chapters

This dissertation contains five chapters. Summarized in this chapter (Chapter 1) are the research goals and questions along with the associated hypothesis of research. The pilot research is described including the partner organization. The chapter then describes how the outcomes from this pilot research identify the successful COMPLETED and the ONGOING case study sites for the dissertation research.

Chapter 2 Literature Review and Theoretical Framework, presents a review of literature that supports the methodology and the discussion of research results, and describes the basis of the body of theory that was drawn upon to craft the theoretical framework that guides this work. It includes definitions related to the concepts of high performance team, self-managing team, leadership with facilitative skills, and also a reference to the importance of the culture of the organization and the concept of risk.

Chapter 3 Methods, presents the specifics of the methodology, including case study approach, mixed methods approach, the description of the area of study, including a description of Massachusetts Interfaith Power and Light, as well as general characteristics of the HOW teams included in this research (carefully avoiding identifiers to comply with privacy issues). It also presents validity and ethical considerations.

Chapter 4 Results, includes the results obtained from the research process. They are presented separately for the COMPLETED case (including all the HOWs that completed sustainable initiatives) and the ONGOING case (including data from the HOW team I observed while they were in the process of completing three sustainable initiatives). The data includes

quantitative and qualitative information. Qualitative information includes numerous quotes from team member's statements to help clarify results.

Chapter 5 Discussion and Conclusions, provides a discussion and interpretation of the results and a sets out recommendations for "best practices" and future research questions.

Chapter 2: Literature Review and Theoretical Framework

Theoretical Considerations

According to Daft (2010), “Organization Theory” is concerned with the organizational level of analysis, but it also focuses on groups and the environment. In order to understand and explain an organization, a researcher needs to take into account the characteristics of the environment in addition to the organization itself. Organization Theory is the “macro” examination of an organization, since it analyzes it as a “unit.” It is concerned with the “big picture” of an organization and its main departments or fragments. This theory focuses on people grouped into departments or fragments with different structures and behavioral characteristics at the organizational level of analysis. On the other hand, “Organization Behavior Theory” (Bass, 1960; Bass and Bass, 2008) is concerned with individuals within organizations as the “units” of analysis. It is the “micro” approach to organizations, it focuses on concepts such as “motivation,” “leadership style,” and “personality,” and it is concerned with emotional and cognitive differences existing among people within organizations. Daft (2010) points out that “Organizational Theory” could be characterized as the “Sociology” of organizations, while “Organizational Behavior Theory” would be the “Psychology” of organizations.

I focused on the observation and assessment of teams that are self-managed, seeking to approach the high performance team model, and that are supported by leadership with facilitative skills. I drew upon the Organization Theory and Organizational Behavior Theory to understand how self-managing, high performance seeking teams are managed and developed through leaders with facilitative skills in order to improve team performance towards achieving the goals set by the larger organization. In this research, I am referring to a group of people intentionally working together to achieve a common goal, as a type of “organization.”

According to Laiken (1998), in high performance organizations the organizational goals and the personal needs are met at the same time. Furthermore, personal needs are met through the achievements of the organization. The organizational culture of high performance organizations fosters respect, responsibility and opportunity, people-centered processes, and perhaps most importantly, the ability to work effectively in small groups or work teams. The functioning of semi-autonomous work teams, including their ability to establish goals, set priorities and resolve work-related problems is key to organizational effectiveness (Laiken, 1998). In a high performance team, the creativity in each individual is stimulated through the work dynamics. In contrast to the traditional authority model, leadership behavior for team development supports the idea of an effective leader (or a leader with facilitative skills) who enables, empowers and facilitates the work of team members. I will be drawing upon the aforementioned concepts in order to define and understand the role of the leader with facilitative skills in keeping the team working effectively towards achieving its goal.

For this research, leadership with facilitation skills is defined as the formal or informal process of one or more individuals within a small group or work team who enables, empowers and facilitates the work of team members. Groups of people or “teams” evolve as members interact with each other and with their leaders while they are invested in working together towards a common goal. The Theory of Group Formation proposed by Tuckman (1965) and later revised by Tuckman and Jensen (1977), can be used as an organizing framework to understand how a team is formed and how it evolves to approach the “high performance team” model. Tuckman (1965) analyzed a series of published articles describing group development stages over time in different group settings. The author proposed four general stages of group development: “forming,” “storming,” “norming,” and “performing.” In a later revision, Tuckman

and Jensen (1977) added the stage of “adjourning.” The “forming” phase represents the beginning of the process, in which relationships among the team members are established. It is characterized by orientation, testing and dependence (Tuckman, 1965; Molnau, 2013). The “storming” phase represents the stage in which power plays and conflict among the members (who are still confused) arise. This phase is dominated by resistance to group influence and to the task required. The “norming” phase follows. In it, the team has developed trust and good communication level and there is openness among team members. The “performing” phase is that in which team cohesiveness is achieved, and the team members start constructive action. Lastly, the “adjourning” phase is when the group is disengaged and it is dominated by separation anxiety, sadness, and feelings towards leaders and team members.

This research also drew upon the interpersonal processes within a team presented by Yeatts & Hyten (1998). Interpersonal processes among team members and between them and their leader with facilitative skills include the “6 C's Plus Trust” (or “6 C's and T”) context, including the concepts of *communication*, *coordination*, *cooperation*, *collaboration*, *conflict*, *cohesion* and *trust*. The author's research data indicated that these interpersonal processes influence and are influenced by the work processes, the characteristics of the team, the team's environment, and the characteristics of the team members. However, the most significant influence on the team's performance has been found to occur through its effect on the first one, the team's work process (including team member's efforts, available resources, talent and procedures applied to their work). The “6 C's Plus Trust” processes are described in the following paragraphs.

Communication is a key team interpersonal process. It generally has direct positive effects on people's talents applied at work, since people continually learn from others' mistakes,

and they are inclined to ask for help. The team environment affects and is affected by the organizational culture, the resources available to the team, the training opportunities and the relationship with leadership. Team design, including team's norms, size, composition and leadership, also affects the level of communication. The role of the formal team leader is particularly important, since communication tends to be more prevalent when the leader actually encourages team members' communication in an open, complete, honest and nonthreatening way, facilitating the team decision-making process. Finally, the characteristics of the team members, including the knowledge and skills, the interests in the work, and their personalities influence communication.

Coordination has not received as much attention as communication in the literature. Work coordination can be defined as the "... act of performing two or more steps of a work process in a proper order" (Yeatts & Hyten, 1998). This interpersonal process is particularly important when considering team performance. If the tasks are not well coordinated between team members, the procedures will not be carried out correctly, resulting in inefficiency and ineffectiveness in the process of achieving the team's goals.

Cooperation and *collaboration* are two concepts that remain closely related, and are sometimes used interchangeably. For the purpose of this study, they are considered synonyms, and defined as "...the act of two or more people working together for a common purpose" (Yeatts & Hyten, 1998). These terms are closely related to the concept of *conflict*, which has been traditionally defined as "...disagreements between two or more people that leads to mistrust, poor communication, and lack of cooperation" (Yeatts & Hyten, 1998). However, behaviorists in the late 1960s started to view conflict as a natural process that may lead to either dysfunctional behavior or to beneficial behavior. Therefore, "beneficial conflict" or "cooperative conflict"

refers to situations in which two or more team members with opposite ideas or interests are motivated to explore and understand each other. Cooperation, collaboration and conflict are also related to the team work process, the environment, the design and the characteristics of the team members. This influence of Yeatts and Hyten's concepts is of particular interest for this research, in which "conflict" conveys the idea of *conflict resolution* capacity within a team.

The research conducted by Yeatts and Hyten (1998) demonstrated that while cooperation tends to be high and conflict low among team members that are similar in their job status, values, prejudices and talents, the opposite tends to happen when team members are in a different status. Those in the lower ratings tend to feel threatened by those in higher ratings (formal leadership), and these may tend to downplay the recommendations from those in the lower status. This reduces cooperation and increases conflict.

Cohesion "...is the degree to which members of a team feel attracted to their team and feel compelled to stay in it" (Yeatts & Hyten, 1998). *Trust* is defined as "... a belief held by one team member about another that 1) the behavior of the other can influence whether one gains or loses something; 2) one has no control over the other's behavior; and 3) that the other will behave in such a way that gains will result" (Yeatts & Hyten, 1998). Trust and cohesion are two of the conditions characterizing solid, long lasting teams, and therefore their development within a team takes a long time. In certain circumstances, teams form for a short period of time to achieve a specific, short term goal. It is critical to consider how the degree of development of these interpersonal processes impacts the group dynamics.

The Team and the High Performance Team

A team can be defined as "... an interdependent collection of individuals who share responsibility for specific outcomes for their organizations" (Thompson, 2011). It can also be

defined as a “... small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable” (Katzenbach & Smith, 2003). Both definitions convey the meaning of commitment and cooperation in order to achieve common goals. Belbin (2010) considers that “[t]he essence of a team is a set of players who have a reciprocal part to play, and who are dynamically engaged with one another.” A “high performance team” is one that meets all the conditions of a team, but according to Katz (2009) it has, in addition, “... members who are deeply committed to one others' personal growth and success.” Those teams are often extremely focused on their objectives and generally achieve superior business outcomes. Cook (2009) considers a “high performance team” as the one that shows the following characteristics: “a clearly defined and commonly shared purpose,” “mutual trust and respect,” “clarity around individual roles and responsibility,” “high levels of communication,” has “a leader who both supports and challenges team members,” “a climate of cooperation,” and “an ability to voice differences and appreciate conflict.”

Some experts question the validity or value of having teams in charge of executing specific tasks in any organization. According to Katz (2009), teams do not represent the solution to all the organizational needs, since they are not able to solve absolutely all the problems, or enhance everyone's results, or help top management tackle every challenging task. Furthermore, in some cases, the existence of teams in organizations can be resisted. However, Katz points out that teams generally outperform individuals or even other groups, and are key to effect necessary change in high performance organizations. Those managers who are convinced that some behavior-based characteristics (as quality, cost-effectiveness, innovation, and customer service,

for example) are going to help build sustainable competitive advantage, will undoubtedly consider the development of teams (and team performance support) as a high priority.

Depending on the management style, those teams can have different degrees of autonomy, and Thompson (2011) considers the following team classification: “manager-led teams,” “self-managing teams,” “self-directing teams,” and “self-governing teams.” In the first case, the manager acts as a team leader, and the degree of team's autonomy increases from the first group to the last one, in which team members assume the whole control and responsibility for the team performance. For the purposes of this research, I will focus on “self-managing teams,” defined in the next section.

The Self-Managing Team

According to Thompson (2011), a “self-managing” or “self-regulating” team is one in which the leader sets the team’s general objective or the goal, but he or she provides team members the flexibility to manage the path to achieving such goal. The author points out that self-managing teams help improve productivity, quality and savings, among other things, both in the manufacturing and in the service sectors. Wageman (1997) developed a case study research on self-managing teams at the Xerox service organization, based on 43 cases. The author concluded that despite their promises, self-managed teams do not necessarily contribute to an organization's performance because they did not operate as intended. People generally prefer to work “solo.” Wageman then inquired about how managers can get teams to assume self-management responsibilities to lead those teams to perform as expected. After analyzing different kinds of teams at the organizational level in her research, Wageman identified the seven critical factors that can help a self-managed team improve its performance to correct the aforementioned problem and achieve success. These critical factors are:

1. “clear, engaging direction”
2. “a real team task”
3. “rewards for team excellence”
4. “basic material resources”
5. “authority to manage the work”
6. clarity of “team goals”
7. “team norms that promote strategic thinking”

Wageman then concluded that these seven factors matter for who is leading a team. Then, setting these success factors in place may need organizational changes in the rewards systems, in the design of work, in resources available to teams, etc. Leaders, then, need to be aware of teams’ needs. This will offer organizations the opportunity to enhance creativity, flexibility and responsiveness, which are the main purposes of building a self-managed team.

In a later research work, Wageman, along with Hackman and Lehman, developed and tested the Team Diagnostic Survey (TDS) instrument (Wageman *et. al*, 2005). The findings from their work indicated that the opportunities for team effectiveness are higher when the following five conditions are met. These conditions are:

1. people responsible for the work form a “real team” (Wageman *et. al*, 2005) integrated and fully functional instead of a team in name only
2. the team has a “compelling direction” for its tasks
3. the “team structure” is facilitative instead of obstructive
4. the “organizational context” surrounding the team provides support
5. the team counts on “available coaching” to help members take advantage of the circumstances

Leader with Facilitation Skills

According to Moore (2004), a leader with facilitation skills may be understood differently within a varied range of organizational environments. For example, religious leaders may use this leadership style to describe a way to lead congregations, and educators may use such concept to describe a way of leading change within a school. In this sense, Conley & Goldman (1994), when discussing leadership in the educational environment, consider that " ... '[f]acilitative leadership' may be defined as the ability of [leaders] to lead without controlling, while making it easier for all members of [a team] to achieve agreed-upon goals." In addition, consultants may use the term to characterize ways of leading an organization. In all cases, this type of leadership involves innovative ways to lead people or organizations. Leadership style can evolve from persuasion and collaboration towards the higher level of leadership with facilitative skills, through the development of specific interpersonal skills (Moore, 2004; Rees, 2001; Heifetz & Linsky, 2002). In this evolution, the team leader develops listening and empowering skills, changing his or her traditional role as the purely visionary and decisive leader. He or she involves team members in the process of defining team's vision and purpose, and creating a cohesive and more effective team.

According to Schwartz (2002), facilitative leadership is considered as *"... a values-based, systemic leadership philosophy founded on [specific] core values and assumptions, principles and methods."* In this context, the skilled facilitative leader *"... helps groups and individuals become more effective through building their capacity to reflect on and improve the way they work"* (Schwartz, 2002). Supporting this concept, Rees (2001), defines a "facilitative leader" as *"... someone who acts on the premise that a leader does not do for others what they can do for themselves."* Schwartz (2002) adds that the "skilled facilitator" leader operates from a series of

“core values” that are consistent with the concepts of empowerment, commitment, collaboration, learning and partnership. He identifies those “core values” as: “valued information,” “free and informed choice,” “internal commitment,” and “compassion.”

Finally, Schwartz (2002) points out that the “skilled facilitator” approach integrates a theory of group facilitation into practice in order to create the aforementioned values-based, systemic approach to facilitation. Schwartz (2005) identifies the following key elements that characterize that approach:

- the “group effectiveness model”
- a “clearly defined facilitator role”
- usefulness in a “wide range of roles”
- “explicit core values”
- “ground rules for effective groups”
- the “diagnosis-intervention cycle”
- “low-level inferences”
- “exploring and changing how we think”
- a process for “agreeing on how to work together”
- “a systems approach”

When referring to the importance of proactive leadership in the office, Bacharach (2009) identifies 10 signs indicating that a leader fits the profile of a “facilitative leader.” According to Bacharach (2009) such leader:

- “has the capacity to make adjustments”
- “puts emphasis on people’s ability to reflect and innovate”
- “wants people to feel confident in their ability to adjust plans and solve problems”

- “feels that people will find ways to avoid inertia”
- “assumes most people are self-motivated and appreciate challenges”
- “is not afraid of uncertainty”
- “thinks about organizations as networks, not hierarchies”
- “does not mind risk and does not feel alone”
- “aims to maximize spontaneity and adaptability”
- “does not value routine, controlled systems, and measurements”

In HOW teams, the leaders emerge from within the team, and they are recognized by the rest of the team members mostly due to their skills, competencies and their commitment to the group. These leaders adopt a facilitative approach, and in this sense Belbin (2010) explains the characteristics of a “team leader,” opposite to a “solo leader.” The main difference is that a team leader “*deliberately limits his or her role and declines to rule absolutely*” (Belbin, 2010). In this sense, the team leader chooses to limit his or her role and delegates, builds on diversity (valuing differences between people), seeks talent, values other’s contributions without feeling threatened and builds capacity within the group, and projects the team’s mission. The leader’s effectiveness relies on his or her capabilities to lead without imposing his or her authority within the group. Northouse (2016) presents the “skills model approach” to leadership, developed in the 1990s in order to explain the capabilities (the knowledge and skills) that facilitates effective leadership in a team. The author considers five components of the effective leader performance: *competencies, individual attributes, leadership outcomes, career experiences, and environmental influences*. The leader competencies are his or her problem-solving skills, social judgment and knowledge. These competencies are at the heart of this model, and are affected by the leader’s cognitive abilities, motivation, personality, career experiences and the environment.

Finally, LaFasto and Larson (2001) present the results of a survey to more than 6,000 team members and leaders, in which six main consistent and useful leadership competencies emerged, and that can be applied when to the HOW teams considered in this research:

- “Focus on the goal”
- “Ensure a collaborative climate”
- “Build confidence”
- “Demonstrate sufficient technical know-how”
- “Set priorities”
- “Manage performance”

The Organizational Culture, Objectives and Goals and the HOW Volunteer Teams

According to Daft (2010), *“Culture [of an organization] is a set of values, norms, guiding beliefs, and understandings that is shared by members of an organization and taught to new members as the correct way to think, feel, and behave.”* Along the same lines, Yeatts & Hyten (1998), define organizational culture as *“... a set of basic assumptions and norms that guide employee behavior within the workplace, are learned by new employees, and evolve.”*

When experts point out that organizational culture is the key to organizational excellence, it is critical to define such concept in a way that could be a common reference in the field (Yeatts & Hyten, 1998; Abdallah & Ahluwalia, 2013). Schein (1984) defined the concept of organizational culture in terms of a “dynamic model” explaining how the culture is learned, transmitted and changed through “dynamic evolutionary forces,” beyond the notion of culture as a set of shared knowledge and meanings. Under this scope, organizational culture is *“the pattern of basic assumptions that a given group has invented, discovered, or developed in the process of learning to cope with its problems of external adaptation and internal integration, and that worked well*

enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein, 1984).

In a study conducted by Yeatts & Hyten (1998) in four organizations (ranging from 70 to thousands of employees), the cultures within which self-managing work teams operated, affected such teams’ performance. In two of the cases, the culture affected teams negatively due to the assumption that leaders or managers, not teams, would be responsible for team's work evaluation. In the other two cases, the culture emphasizing cooperative interdependence among the employees instead of competitiveness, affected team performance positively. The different environmental systems, in this case, indicated a culture supportive of teams, and that included information sharing within teams, provision of education and training in order to facilitate interpersonal processes and decision making within teams, as well as using performance evaluation and a compensation system that supports cooperation and teamwork instead of competition and individual performance. The authors point out that in the last two cases, culture was evidenced through employees' assumptions that teams should be respected and supported at all times. This culture, then, seemed to have a number of positive effects on the teams.

Understanding the culture of an any type of organization and the teams within them, is crucial for designing a plan of action that includes performance improvement. In addition, according to Daft (2010), understanding structural and contextual dimensions of an organization is fundamental for leaders to plan to improve effectiveness and efficiency. The author defines *efficiency* as “*the amount of resources used to achieve the organization’s goals.*” It considers the quantity of raw materials, financial resources and human resources necessary to produce outputs. Meanwhile, *effectiveness* refers to “*a broader term, meaning the degree to which an organization achieves its goals.*”

In order to be effective, any organization and the teams within them need to have clear organizational objectives and focused and appropriate goals to achieve them. For example, organizations use new technology to improve efficiency by helping reduce paperwork, streamline procedures, easy access to information, and minimize mistakes, leading to higher quality service. Achieving effectiveness is not always as simple because of a diversity of goals within the organization. For example, in an organization customers seek quality service, while employees are concerned with good pay and working conditions. Leaders need to balance the needs of different stakeholders.

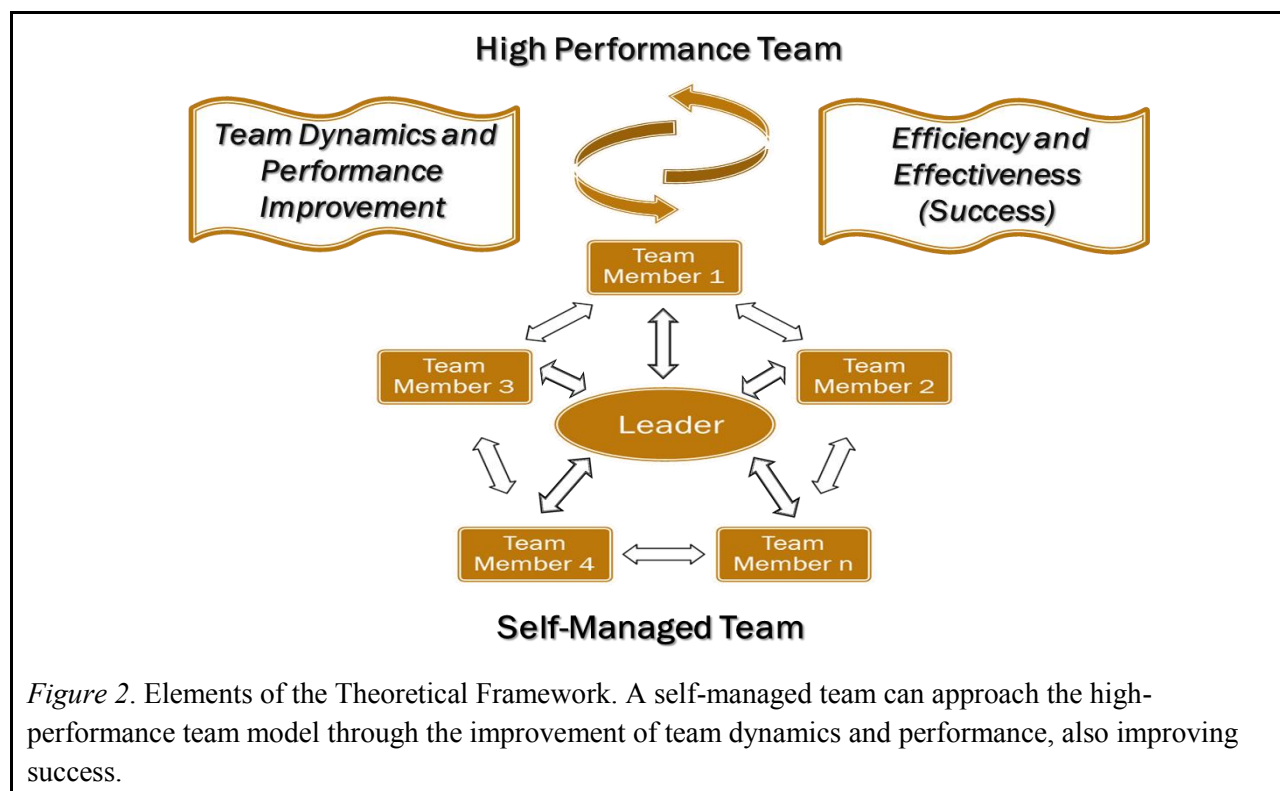
According to Daft (2010), an organization overall *goal* is a “*desired state of affairs that the organization attempts to reach.*” This represents the ultimate purpose towards which all the efforts in the organization are directed. The author further points out that the overall goals for organizations are also called the *mission* or *official goals*. Other authors call them the *organizational objectives* (Pojasek, 2016; Pojasek, 2013) to differentiate them from the specific or strategic *goals* that every level of the organization, from employees to managers, or from team members to leaders have in order to perform their tasks. Both objectives and strategic goals are important for the organization, but they serve different purposes. The official goals or objectives convey a purpose, a mission, and provide legitimacy to the organization, while the operative or strategic goals reveal a purpose, team member’s direction and motivation, and decision guidelines to improve performance (Daft, 2010).

In the case of HOW teams, the aforementioned concepts (organizational culture, objectives and goals) can be applied. HOW teams of volunteer nature, are formed spontaneously from within the HOW congregation without receiving any training, and they are moved by their common purpose (or overall goal) of protecting God’s Creation and saving money (by saving

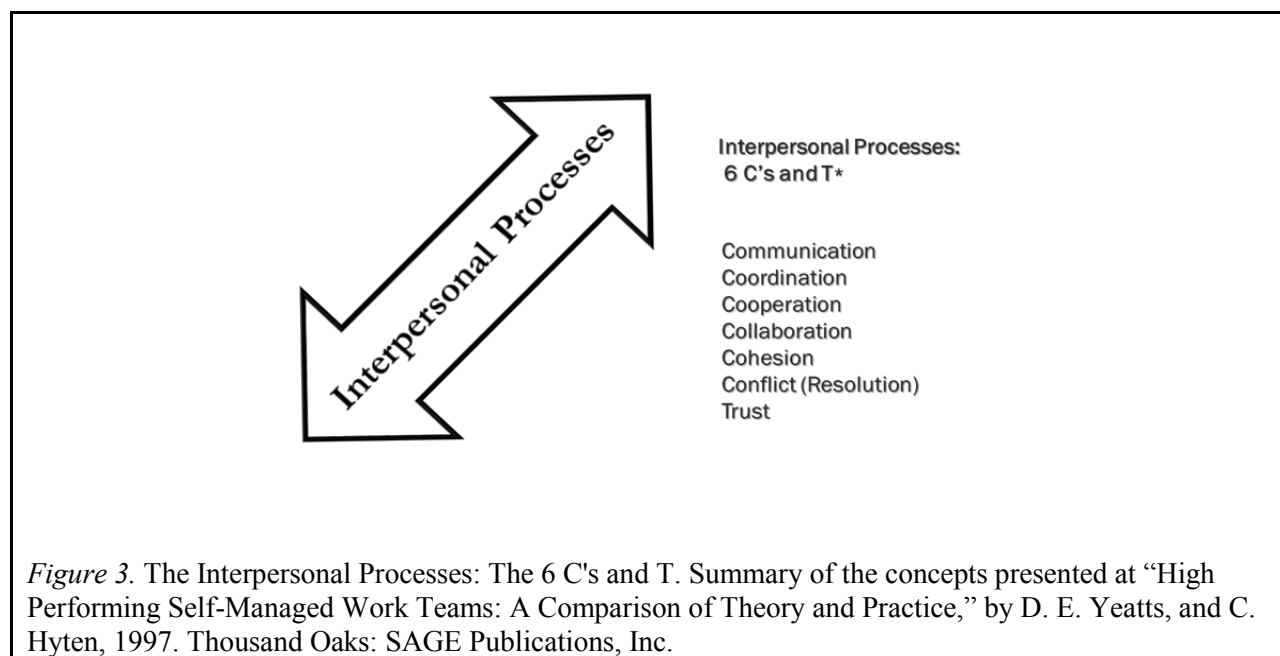
energy and other resources) to the congregation. They rely on their networks and their own skills that they offer to their HOW. Thompson (2011) proposes the concept of “group socialization” to explain how teams start forming. Such concept explains “*how individuals enter into and then (at some point) leave teams*” (Thompson, 2011). When people begin to work together as a team, they begin a process of socialization, and team members shape each other’s behavior. The process of socialization is fundamental for any team members to work together and coordinate their efforts, and this appears to be especially important for volunteer-based teams within congregations.

Elements of the Theoretical Framework

This research is based on the knowledge provided by the previously described body of theory, and further focused on the elements presented in Fig 2. As it can be seen in the figure, the theoretical framework is focused on the interactions among the members of a self-managed team and between the team and its facilitative leader. I posit that the improvement of the interpersonal processes within these actors contributes to help this self-managed team to progressively approach the high performance team model. The success of this process is contemplated or assessed through the lenses of effectiveness and efficiency. As the self-managed team approaches the high performance team model with the support of the facilitative leader, team dynamics improves through the improvement of the interpersonal processes, and therefore team performance tends to improve. As team dynamics and performance improves, efficiency and effectiveness also tend to improve, and this positive feedback loop maintains and reinforces itself as the team process evolves successfully.



Details of the interpersonal processes, the “6 C’s and T” context, are presented in Fig. 3.



Based on the elements of the theoretical framework guiding this research, the research design and the methods for data collection and analysis are presented in Chapter 3.

Chapter 3: Methods

Introduction

The aim of this research is to examine the interpersonal processes taking place among volunteers in self-managed teams that successfully plan and implement local sustainable practices in Houses of Worship (HOWs). It also explores how the team facilitative leader practices may enhance the group dynamics processes that are characteristic of high-performing, self-managed teams as defined by Yeatts and Hyten (1998) and Laiken (1994). In order to explore these relationships, the research also assessed the interpersonal processes within these teams following the concepts used by Yeatts and Hyten (1998) to explain high performing self-managed work team performance. This research intends to identify key organizational behavior characteristics that can be predictive, or at least be consistent with, successful volunteer team performance at HOWs. The research's questions and hypothesis have already been presented in Chapter 1, but it becomes useful to remind readers about the overarching research question here:

How do the interactions among the members of teams of volunteers, including their facilitative leaders, in Houses of Worship, support the development of positive team dynamics and performance that directly leads to successful planning and implementation of sustainable initiatives?

The interpersonal processes considered in this work are: communication, coordination, cooperation, collaboration, conflict resolution, cohesion and trust (Yeatts & Hyten, 1997). I posit that the improvement of these processes can improve team dynamics and performance with the support of its facilitative leader, moving the “self-managed” team towards approaching the “high performance” team model, and becoming more successful (efficient and effective) in achieving its goals.

This research uses the case study and mixed methods approach, as described in the following section.

Case Study Approach

The case study method was considered as the appropriate strategy of inquiry for this research (Yin, 2003; Yin 2008; Stake, 2005; Denzin & Lincoln, 2005; Simmons, 2009; Creswell, 2006; Berg, 2009). Case studies not only help to focus on the subjects but also on their context and background. This research includes two different case studies: the COMPLETED case study (including the seven HOW solar PV installation projects and a parks greening project) and one ONGOING case study, in which a HOW team was studied while developing and completing three sustainable projects (efficient windows installation, light bulbs replacement and room insulation work). Documenting each major step in the process of researching as well as collecting a large amount of data was extremely helpful in the establishment of a logical chain of evidence. As Yin (2003) points out, there is no standard procedure to do case study research, and the researcher needs to develop the necessary skills and document every piece of evidence.

In order to build the case studies, I followed three principles or criteria for data collection proposed by Yin (2003) and Yin (2008). The first criterion recommends the use of multiple sources of evidence (Yin, 2008). The second criterion proposes the creation of a case study database, in order to organize and document the data collected. According to Yin (2003) and Yin (2008), there are basically two separate collection processes: the data (or “evidentiary base”), and the researcher's report. The development of the database is based on four components: notes, documents, tabular materials, and narratives. Finally, the third criteria that includes the establishment and maintenance of a chain of evidence, contributes to increase the data reliability,

allowing reviewers to follow a natural derivation of any evidence from the research question to the research conclusions.

In terms of analysis, this research intended to understand the patterns emerging from the data. The procedures for “pattern recognition” (Yin, 2003) led to inferences about the teams' characteristics and their relationships and response to facilitative leaders' practices that helped them improve group dynamics and performance. It was necessary to establish those patterns based upon a preliminary data analysis. The following general strategies of analysis proposed by Yin (2003) and Yin (2008) guided this procedure: 1) “Developing a case description”; 2) “Using both qualitative and quantitative data,” and 3) “Examining rival explanations.” In the last case, being aware of rival explanations both in the data collection and in the data analysis phases, helped in the process of searching for additional evidence about alternative influences.

Yin (2003) and Yin (2008) also propose the following techniques for case study data analysis: “pattern matching” and “explanation building.” “Pattern matching” is a type of logic that compares a pattern emerging from the data collected (empirical) to a predicted pattern (or various alternative predictions). Whenever those patterns match, the results help to ensure the case study's internal validity. “Explanation building” is a kind of “pattern matching” technique, although more complicated since a complete explanation of the case study needs to be elaborated.

Mixed Methods Approach

The mixed methods approach comprises the use of qualitative and quantitative data and data processing procedures. Greene *et al.* (2008), based on a comprehensive review of a sample of 57 mixed methods evaluation studies, identified five main purposes for mixed methods used in research: “triangulation,” “complementarity,” “development,” “initiation,” and “expansion.”

According to the authors, “triangulation” seeks out corroboration, correspondence, and convergence of data findings from the different methods. “Complementarity” pursues illustration, clarification and enhancement from one method’s results to the others. “Development” seeks to use one method’s results to inform the other method, in order to increase construct validity. “Initiation” pursues the finding of contradictions, paradox, and new perspectives in order to reformulate the questions or results from the other method. Finally, “expansion” seeks to widen the scope of inquiry by using different methods for different research components.

This rationale guided the design of the semi-structured interview questionnaire (Stewart and Cash, 2007; Fink, 2013), in addition to the survey (Fink, 2013; Denzin and Lincoln, 2005; Cook, 2009; Wageman, 1997; Wageman, Hackman and Lehman, 2005; Question Pro, n.d.; Lasker and Weiss, 2003; Laiken, 1998; International Organization for Standardization, 2009; Survey Monkey, n.d.). The survey focused on quantitative indicators of team dynamics and performance. The interview questionnaire covered qualitative data related to technical, operational and narrative aspects of the sustainable projects development, and they were also instrumental for data verification and triangulation. They also had the purpose of making interviewees feel comfortable sharing their opinions and their stories of success as experienced by them, with enthusiasm or frustration, depending on the case.

Study Area

The COMPLETED and the ONGOING case studies considered in this research include HOWs located in the State of Massachusetts. Considerations about the influence of each HOW religious denomination is outside the scope of this work, and therefore the HOWs were selected without taking into account their specific religious denominations. However, it is worth to

mention that the HOWs included in this research embraced the Episcopalian and Congregational traditions, while the entire organization also includes a wide spectrum of other faith traditions such as Unitarian Universalist, Methodist Episcopal, Jewish, United Methodist, Anglican, Catholic, Presbyterian, Baptist, and Lutheran among others (Massachusetts Interfaith Power & Light, n.d.).

When planning and developing their sustainable projects, most of these HOWs, not all, counted on the expertise and advice of Massachusetts Interfaith Power and Light (MIP&L). MIP&L is the Massachusetts Chapter of Interfaith Power and Light (IP&L), a nationwide organization based in San Francisco, CA. According to IP&L, all HOWs have a significant environmental footprint, and they are among the largest consumers of energy per capita and per hours of use, which is significant since the United States has more houses of worship than any other country in the world (Interfaith Power & Light: A Religious Response to Global Warming, n.d.).

MIP&L is a not-for-profit organization based in the Greater Boston Area focusing on providing a “faith based response to climate change” in HOWs of different religious denominations. It promotes energy efficiency and renewable energy, and advances efforts towards environmental justice, green jobs training, and policies that support sustainable initiatives to protect God’s Creation. MIP&L supports environmental stewardship through their Congregation Action to Renew Earth's Sustainability (CARES), promoting the reduction of energy costs by as much as 65%, lowering the carbon footprint by 70%, and building a sense of community through initiatives such as their “Energy Upgrade Work Day” program (Massachusetts Interfaith Power & Light, n.d.; Roseland, 2012). In addition to energy efficiency

measures, installing solar PV-based power generation capacity became significantly important to the organization.

The Episcopal Diocese of Massachusetts in Boston is the organization that leads MIP&L's efforts. According to MIP&L, no formal or legal relationship exists between the two organizations (Nail, 2016). However, a now retired Bishop from the Diocese, who has a deep commitment to climate change adaptation issues, joined forces with three MIP&L board members who are Episcopalians. The relationship then evolved "organically" (Nail, 2016), and both organizations now jointly plan a common agenda that includes activities such as the Sustainable Houses of Worship Workshops (SHOWs) to support the goals of the Diocese's Green Grant program. The Diocese also supports MIP&L by financing the SHOWs and identifying potential congregations to host the events (Nail, 2106). In addition, a group of representatives from different HOWs within MIP&L exchange information and cooperate with MIP&L in order to help promote and advance new sustainable initiatives.

The HOWs included in the COMPLETED case study were part of the nine first HOWs that successfully installed solar energy, and that were highlighted as successful and pioneers in solar PV installations within MIP&L. After an initial contact with each of the nine HOW representatives, seven of them agreed to participate in this research. In addition, another HOW team was selected from a set of three HOWs that were in the process of completing sustainable initiatives. This team fitted the desirable characteristics of an ONGOING case in this research, since it consisted of a self-managed team with a strong facilitative leader, and it appeared to be evolving towards the most sophisticated stages of "performing" (Tuckman, 1965). In addition, their ongoing sustainable initiatives focused on energy efficiency, involving the exploration of cost-benefit options, town-related regulations, and the technical steps towards completion. This

made these initiatives comparable to the ones in the COMPLETED case. Finally, the team had a clear agenda and a schedule for upcoming regular meetings that matched my research's needs for frequent interactions with the team and for observations. After an initial contact, this group also agreed to participate.

Data Collection Methods

For this research, I used the following sources of evidence:

- Documents and archival records in the public domain regarding the seven solar PV projects previously completed, and regarding the ongoing sustainable initiatives at the HOW selected.
- One survey for HOW team members from the COMPLETED case study (n = 9) (Appendix A). From a total of seven HOWs, nine participants responded to the survey. In three of the HOWs two respondents participated, and only one in the rest of the HOWs.
- Two surveys for HOW team members of the ONGOING case study (n = 7), one at the beginning and the other at the end of the observation process (Appendix B). The only HOW in this case had a total of seven participants.
- Semi-structured interviews for HOW team members of the nine COMPLETED case study (Appendix C).
- Focus groups, observation (through mailing lists and attendance to meetings and other events), journaling and short written questionnaires to the HOW team members of the ONGOING case study.

The data collection phase lasted approximately seven months, followed by five months of data processing and dissertation writing. The data collection process consisted of two main

phases. The first phase included the surveying and interviewing processes within the seven already completed sustainable projects at the HOW level (most of them solar PV projects and one parks cleaning project). The process lasted approximately two months, and at some point overlapped with the start of the second phase (ONGOING case data collection). The COMPLETED case included all the aforementioned seven HOWs as a unit. The teams were generally small, consisting of two to five people at the most. Due to the fact that some projects had been completed five to ten years earlier, it was not possible to contact the total number of team members involved. Each HOW representative was asked to agree to an interview and to complete a written survey. The interviewing process happened either in person or by phone, and they were audio taped or not, depending on each interviewee's preference. Later, each participant received a printed copy of the survey by mail, along with a stamped, self-addressed envelope, and they were asked to return the survey answers within two to three weeks.

The second phase started with the observation of the ONGOING case study. The data collection process for the ONGOING case required considerably more time (approximately six months) because I needed to repeatedly interact with interviewees. I needed to observe the team as it developed the sustainable initiatives and as it evolved as a team. The data collection for this ONGOING case consisted of the following steps:

- Two surveys. Each team member received a printed copy of the survey during the first meeting of the data collection process, returning their answers in less than a month. Five months later, one month before the end of the data collection process, they received the second survey to be returned within the following month. Because team members answered the survey at two very different stages of the observation process, it was possible to observe some characteristics of the team evolution. The templates used for the

two surveys were similar, except for the fact that the second one contained a set of additional open-ended questions inquiring about the motivations of each team member to be part of the team and the organization, and their incentives to volunteering and be part of the sustainable project (Appendix D).

- Focus groups and semi-structured interviews. The original research design included a set of three 60-90 minutes focus groups to take place after three of the team's normal monthly meetings during the entire observation time. One would take place close to the beginning (after obtaining the first survey results to perform member checking), the second midterm, and the last one after obtaining the second survey results). However, performing each of those focus groups would take approximately one hour, and unfortunately not all team members had the time to participate after their meetings. A change in the strategy was necessary to accommodate the team's needs. Therefore, the three focus groups were performed as planned, but they were shorter meetings lasting 20-30 minutes. In addition, I planned to attend every meeting and other events to be able to interact with the team and obtain the needed information. During the focus groups and in other meetings, participants agreed to be interviewed with specific questions and they also responded short questionnaires in writing. A final meeting intended to be a member checking also took place later, beyond the observation time and after the data analysis was finalized.
- Observation and journaling. Regular observation and journaling were essential to the data collection between focus groups meetings. They took place during regular meetings, phone calls, while being part of a mail trail discussion, or during special events. The records kept from conversations as well as other notes were essential to the elaboration of

conclusions. The data collection did not include filming or audio taping techniques because of a potential negative influence that would have interfered with spontaneous interactions among team members. However, I audio taped myself immediately after each meeting had finished and after leaving the HOW building, in order to summarize all the details while still current in my memory. This contributed to an essential aspect of case study research: practicing reflection. According to Stake (2005), "... [I]n order to avoid ethical problems, the case study researcher needs constant input from conscience, from stakeholders, and from the research community."

Finally, all these mechanisms and resources helped me to document details at each step while researching both case studies. The data collected from the COMPLETED case was extremely informative to design the data collection for the ONGOING case, allowing me to be more effective during the observation process in the second phase. At the same time, the ONGOING case was fundamental to inform the data analysis of the COMPLETED case, widening my understanding by observing team interpersonal processes as they developed.

Data Analysis Methods

Quantitative data.

Once the data from the surveys were collected and organized, they were converted into digital format. The use of spreadsheets in Microsoft Excel 2013 served the purpose of generating preliminary tables and graphics to perform an initial data exploration. A step involved the creation of contingency tables in order to evaluate the relationship between pairs of variables considered in the survey. To do that, it was necessary to enter the data saved as "comma separated values" or "csv" format in Microsoft Excel into the R Commander software package, to create contingency tables in order to analyze the relationships among the categorical variables observed.

In order to process two-way contingency tables in R Commander software, I first included pairs of categorical variables related to the interpersonal processes defined by Yeatts & Hyten, (1997): communication, coordination, cooperation, collaboration, cohesion, conflict resolution and trust. The first page of the survey specifically asked respondents to rate these interpersonal processes according to a six-point Likert scale. The rest of the survey contained questions designed to verify such information and also to add knowledge about each HOW project, the team, and the team leader. I then analyzed and compared each of these variables against each of the remaining survey questions to generate a second set of contingency tables. Initially, the two-way contingency tables processing used the Pearson's Chi Square Test to obtain the p-values to assess variable independence.

However, due to the small sample size ($n = 9$ in the COMPLETED case and $n = 7$ in the ONGOING case), the use of the Fisher's Exact Test instead of the Pearson's Chi Square Test, was deemed more appropriate, generally more suitable for small datasets (Quinn and Keough, 2002). The p-values yielded by the Fisher's Exact Test were more significant and showed more clearly the interactions among variables. The process was repeated for the data from the ONGOING case, using the data from the first survey iteration in the first place, and later, the data from the second survey iteration.

The data yielded by the two-way contingency tables processing allowed the creation of mosaic plots in R software. Mosaic plots are the graphic visualization of the interactions between categorical variables such as the ones in the datasets. The interactions that yielded p-values < 0.05 were selected and then visualized through mosaic plots. The analysis of the residuals offered important insights to understand the interdependence among variables, and the results of such analysis appear in Chapter 4.

Qualitative data.

The previous quantitative analysis was complemented with the information obtained through the qualitative analysis. The data used for the qualitative analysis includes all COMPLETED case interviewees' answers to the semi structured interview questionnaires, and the ONGOING case participants' written answers to short interviews performed during the focus groups, as well as mail discussions notes and my notes from meetings and observations. The data were organized and processed using the NVIVO10 software. The case study descriptions in Chapter 4 include verbatim quotes from interviews with the purpose of supporting the research findings, as evidences to add validity.

The interviews were especially necessary in the COMPLETED case, to retrieve specific information about each of the already finished projects. On the other hand, the ONGOING case offered more opportunities to observe the team and perform the focus groups in order to retrieve the data needed through short questionnaires. In addition, it was possible to include additional open ended questions in the second survey template.

The focus for the qualitative analysis was to understand the patterns emerging from the data ("pattern recognition" -Yin, 2003-) with the purpose of establishing data categories and finally the main themes within the NVIVO10 environment. This analysis provided a deeper understanding about the common variables encountered in different HOW teams that this research considered important to determine team success. The responses to the semi-structured interviews from the COMPLETED case were introduced into the NVIVO10 software environment as internal data in order to perform auto-coding. To ensure that all the questions had a 100% response, only the questions that were fully answered by all participants, were included in this analysis. The answers to the survey open ended questions were also included and entered

as external source into NVIVO10. To facilitate NVIVO coding process, the questionnaires were properly formatted, with the question keys appearing in heading1 style and the responses in normal style. The auto-coding was performed first, creating the node COMPLETED. Each question was then transformed in a preliminary child node of the original node COMPLETED, and it was possible to explore the responses to the same question from all participants.

The data from the ONGOING case was processed in a similar fashion. The written responses from the open ended questions to the two surveys for each participant were included in the same entry (specifying whether each answer belonged to survey 1 or survey 2. The auto-coding was repeated in the NVIVO environment, creating the ONGOING node. Other qualitative data, such as notes from observations, were directly added as part of the case study description in Chapter 4.

Based on the preliminary auto-coding results, the actual coding was performed using NVIVO10, by grouping initial data into categories to create nodes. After analyzing the initial categories, the data was rearranged into the following themes:

1. Team Composition
2. The Project Conducted by the Team
3. Project's Start and MIP&L's Influence
4. Financing Sources
5. Major Obstacles and Sources of Delay
6. Project's Milestones
7. Motivations to Volunteer and Inspirational Sources
8. Team Member's Insights about Their Project Experiences
9. Impact of Sustainable Initiatives within the Congregation

After analyzing the data collected from open ended questions, these themes represented an approach to a set of guidelines for effective sustainable practices. Data from the COMPLETED case interviews were processed first, and later data from the ONGOING case.

Ethical Considerations

Before starting this research, the proposal was submitted for review and approval to the Institutional Review Board (IRB) at Antioch University New England. As part of the proposal, an “Informed Consent” was submitted for review. The IRB approval process was deemed “Exempt.” The data collection process then started, and before each interview, survey or any interaction with participants took place, a copy of the approved “Informed Consent” (Lapan & Quartaroli, 2009; Booth *et al.*, 1995) was provided to them in person or via e-mail for approval and signature in both, the COMPLETED and the ONGOING case studies (Appendix E and Appendix F). The letters of invitation that were sent to each team leaders to initiate contact for this research contained a clear explanation of the purpose of this research, the expected outcomes, and contact information that they could access at any time for clarification. The informed consent also included information related to participant’s rights to drop their participation at any time if they did not feel comfortable. I offered participants clarification about the survey content and other aspects of the data collection process, and ensured they understood that survey and interview data would remain anonymous in order to preserve each individual’s privacy. As a way to thank them for their participation, I volunteered to provide them a copy of the research results and the set of conclusions and recommendations, if requested, once the dissertation has been published.

In all cases, the interviewing process started by engaging the interviewees and making them feel comfortable about sharing their stories. For example, the interview question about the

origins of their HOW's sustainable initiative idea was intended to make interviewees feel more comfortable and willing to start the conversation, and later agreeing to complete the survey.

The results obtained from the data collection and processing are presented in the description of the COMPLETED case study and ONGOING case study in Chapter 4.

Chapter 4: Results

Introduction

This chapter presents the results of the data analysis in the format of two case studies: COMPLETED Case Study and ONGOING Case Study. In this mixed methods approach, quantitative data from the surveys are presented in graphical format through the use of mosaic plots, and qualitative data from the interviews and the observation process are presented as coded under the main nine themes. In both the COMPLETED and the ONGOING case studies, the quantitative and qualitative data were evaluated in a similar manner, and the quantitative data are presented before the qualitative data when describing each case study. Results from the quantitative survey data focus on what elements of the interpersonal processes were interrelated. The objective was to identify what organizational characteristics were connected in order to define some patterns of behavior that are associated with successful team work. I posit that these connections between the characteristics that I explored through the survey would identify key elements of successfully working teams. Successfully working teams include teams able to demonstrate that their work was both efficient and effective in achieving their stated goals. To achieve this, R Commander software was utilized to run a set of two-way contingency tables to analyze further relationships among variables, using the Fisher's Exact Test. After performing that test, the list of interactions that yielded the lowest p-values (< 0.05) were selected. I demonstrate the interrelations or co-occurrences by plotting the data in tables. These data were further analyzed using the mosaic plot function in R software for two-way contingency tables.

These table and mosaic plots are illustrated throughout this chapter.¹ I finally extracted the interactions that presented the largest numbers of residuals in both cases, COMPLETED and ONGOING, and interpreted the residuals' values to analyze the interdependence between the variables. I used the interpersonal processes only first, and then I could verify that the interactions presenting p-values < 0.05 graphically yielded the most significant residuals. I then used these residuals to facilitate the analysis.

Mosaic plots display the counts in a contingency table by the use of squares or tiles. Each tile size is proportional to the cell count. To better understand the logics involved in the mosaic plot, its construction should start with a square with length one. For two-way contingency tables such as the ones used in this research, the square is then divided into horizontal bars, and each bar's width is proportional to the probabilities associated to one of the categorical variables. Later, each vertical bar is divided into bars that are proportional to the conditional probabilities of the second categorical variable (Hartigan and Kleiner, 1981; Hartigan and Kleiner, 1984; Friendly, 1992; Friendly, 1994; Emerson, 1998). For example, if we consider the mosaic plot depicted on Fig. 4 "Communication and Trust," the vertical tiles represent the proportional probabilities of Trust for the responses to each survey entry: "excellent," "very good" and "moderate." Each of the vertical tiles are then divided by the conditional probabilities of Communication for the responses to the same survey entries. Then, for example, we can state that of the proportion of people who responded "excellent" to Trust, almost 50% also responded "excellent" to Communication and almost 50%, responded "very good." A non-significant

¹ For example, when running the plot with the variables "Cohesion" and "Cooperation", the following command line were used:

```
> model.cohesion.cooperation<-(xtabs(~Cohesion+Cooperation, data=Dataset))
> mosaicplot(model.cohesion.cooperation)
> mosaicplot(model.cohesion.cooperation,shade=TRUE)
```

amount of those who responded “excellent” to Trust, also responded “moderate” to Communication.

While the aforementioned considerations are important, the main focus for discussion of this research is on the residuals of the variable interactions. The colors presented in the mosaic plots represent the levels of residuals for each cell in the contingency table, as a result of the interaction between the two variables. The legend presented on the right side of the plot indicates the standardized residual values. The blue color indicates the existence of positive residuals that are > 2 , which means that there are more observations in that cell than would have been expected under the assumption that the two variables are independent (the null hypothesis model). The red color indicates negative residuals < -2 , meaning that there are fewer observations than would have been expected under such assumption. The white color means intermediate residual values (in this case, between -2 and $+2$). For this research, I selected the interactions that presented p-values equal or less than 0.05 and the ones that once plotted, yielded positive residuals, included the strongest ones visualized in blue, as well as weaker ones that while are visualized in white, are still > 0 . I focused on those variables that appeared to be related to or dependent of each other (or at least that were not independent) and therefore that appeared to explain each other mutually. I was interested in analyzing those interactions since the interrelationships among variables contributed to explain the improvement of team’s dynamics (which ultimately helped achieve success in the development of sustainable initiatives at the HOW level).

The complete set of mosaic plots considered for this research is presented in Table 1, Table 2 and Table 3, depicting the selected interactions for the COMPLETED Case Study, the ONGOING Case Study (First Survey Iteration), and the ONGOING Case Study (Second Survey Iteration) respectively.

Table 1.*COMPLETED CASE STUDY: List of Mosaic Plots Considered in This Research*

Figure	Title
Figure 4	<i>Communication and Trust</i>
Figure 5	<i>Cohesion and “Along the process, the team produced high quality work”</i>
Figure 6	<i>Collaboration and “How clear were the team’s goals and outcomes?”</i>
Figure 7	<i>Collaboration and “I felt comfortable with the level of guidance provided by my team leadership”</i>
Figure 8	<i>Collaboration and “Team leadership clearly explained to all members the organization’s goals, objectives and plans”</i>
Figure 9	<i>Cooperation and “How difficult obtaining technical support and material resources when needed was?”</i>
Figure 10	<i>Cooperation and “I was very satisfied with my team’s leadership”</i>
Figure 11	<i>Trust and “It was clear what unacceptable member behavior was”</i>

Table 2.*ONGOING CASE STUDY (First Survey Iteration): List of Mosaic Plots Considered in This Research*

Figure	Title
Figure 12	<i>Collaboration and Coordination</i>
Figure 13	<i>Collaboration and Trust</i>
Figure 14	<i>Cohesion and “Team leadership values and recognizes my individual contributions”</i>
Figure 15	<i>Communication and “Team leadership encourages people to communicate their opinions”</i>
Figure 16	<i>Conflict Resolution and “How often does team membership change?”</i>

Figure 17	<i>Conflict Resolution and “How satisfying working on this team is?”</i>
Figure 18	<i>Conflict Resolution and “Team leadership manages change efficiently”</i>
Figure 19	<i>Conflict Resolution and “Team leadership is able to efficiently draw support from the community”</i>
Figure 20	<i>Conflict Resolution and “Team leadership focuses on creating a healthy, comfortable work environment”</i>
Figure 21	<i>Coordination and “Team leadership is able to efficiently draw support from the community”</i>
Figure 22	<i>Trust and “I would highly recommend this team to successfully complete a sustainable project”</i>
Figure 23	<i>Trust and “Team members are motivated to have the team succeed”</i>

Table 3.

ONGOING CASE (Second Survey Iteration): List of Mosaic Plots Considered in This Research

Figure	Title
Figure 24	<i>Cohesion and Cooperation</i>
Figure 25	<i>Cohesion and Coordination</i>
Figure 26	<i>Trust and Collaboration</i>
Figure 27	<i>Cooperation and Coordination</i>
Figure 28	<i>Collaboration and “Team members are motivated to have the team succeed”</i>
Figure 29	<i>Collaboration and “Team members implement innovative ways to perform tasks successfully”</i>
Figure 30	<i>Collaboration and “There is room for improvement in team work”</i>
Figure 31	<i>Collaboration and “Team leadership provides authority for members to make decisions”</i>
Figure 32	<i>Conflict Resolution and “Team leadership addresses potential issues/conflicts early in the process”</i>

Figure 33	<i>Conflict Resolution and “Team Leadership manages change efficiently”</i>
Figure 34	<i>Conflict Resolution and “Team leadership helps others develop passion for their project work”</i>
Figure 35	<i>Conflict Resolution and “Team leadership helps the team clarify the project’s objectives”</i>
Figure 36	<i>Conflict Resolution and “Team leadership gives feedback in a timely and equitable manner”</i>
Figure 37	<i>Trust and “Team members are motivated to have the team succeed”</i>
Figure 38	<i>Trust and “Team members implement innovative ways to perform tasks successfully”</i>
Figure 39	<i>Trust and “There is room for improvement in team work”</i>
Figure 40	<i>Trust and “Team leadership provides authority for members to make decisions”</i>

It is important to acknowledge the fact that after performing a significant number of tests for multiple comparisons, the risk of committing type I error or incorrectly rejecting a null hypothesis (a "false positive") may increase progressively, amounting to what is called the “family wise error.” Researchers from different fields have divergent opinions about the need for this type of error correction. For example, those who support this need use methods such as the Bonferroni Correction (Perneger, 1998), which has been deemed as an extremely conservative method when the comparisons involve a large number of tests. Others consider that correction is not needed, further arguing that it could also contribute to increase the probability of type II error (or the failure to reject a null hypothesis, a “false negative”) in the case of observational or empirical data. It could also lead to disregard important discoveries from the data. For example, according to Rothman (1990):

“Adjustments for making multiple comparisons in large bodies of data are recommended to avoid rejecting the null hypothesis too readily. Unfortunately, reducing the type I error for null associations increases the type II error for those associations that are not null. The theoretical basis for advocating a routine adjustment for multiple comparisons is the ‘universal null hypothesis’ that ‘chance’ serves as the first-order explanation for observed phenomena. This hypothesis undermines the basic premises of empirical research, which holds that nature follows regular laws that may be studied through observations. A policy of not making adjustments for multiple comparisons is preferable because it will lead to fewer errors of interpretation when the data under evaluation are not random numbers but actual observations on nature. Furthermore, scientists should not be so reluctant to explore leads that may turn out to be wrong that they penalize themselves by missing possibly important findings.”

This research, that focuses on categorical variables and observations, that uses small datasets for both the COMPLETED and the ONGOING case studies, and that has needed a relatively small number of tests to assess interdependence between pairs of variables, supports not correcting for multiple testing.

In addition to obtaining information from the quantitative analysis, the collected qualitative data was used to complete the interpretation of the results of the two case studies. The qualitative data provided a richness of details about the sustainable projects’ development and the specifics about how the teams formed, developed and interacted with leadership. For qualitative data analysis, the data from the interview questionnaires for the COMPLETED case, and from meeting summaries, mailing lists, short questionnaires and notes from the observation process for the ONGOING case, was properly organized. Survey questions that received answers

by all participants and were not only specific to solar PV projects, but also applicable to a range of sustainable projects were selected and analyzed. The “Auto Coding” and later the “Coding” algorithms in the NVIVO10 environment were used in this analysis. The responses to each of the questions, including quotes from participants, were grouped into 21 codes. Then the results of this process were reviewed, and the codes were renamed and labelled with the name of the topic inquired about by each question, defining the main categories. Finally, these categories that presented related information were regrouped resulting in nine main themes, considered as “nodes” within the NVIVO10 environment, as described in Chapter 3.

In summary, the qualitative data were fundamental to complete and enhance the understanding of the quantitative data, providing details of the project development, team member’s personal impressions about the experience, and each participant’s narratives about how the projects were managed and actually executed. In this last case, specific details of the project execution, the necessary steps, the challenges and obstacles, the mechanisms to overcome them and the resources that teams counted on (including support from the HOW governing body and the community), helped to more accurately understand the circumstances in which teams operated. The quantitative data was especially useful to offer specific evidences revealing the interrelationships between the data, and showed the variable interactions that might have been a key to project success. But the complementary qualitative data from interviews contributed extremely valuable data to understand the role of leaders and the relationship between them and the rest of the team members, the relationships between the team and the HOW structure and the community, the availability of resources and team member’s motivations to volunteer and be part of the HOW team’s initiatives. It also offered most of the information used to elaborate the set of guidelines for the development of HOW team sustainable initiatives included in this work.

COMPLETED Case Study

Most of the HOWs included in this research had been established in Massachusetts for centuries. These HOW congregations have embraced the mission of protecting Creation, most of them under the influence of Massachusetts Interfaith Power and Light (MIP&L). After contacting and asking them to participate in this research, most of them provided positive responses with their agreement to an interview. However, not all participants responded to all the questions in the survey. In one case, one participant stated that since he was the one who did most of the work in his HOW sustainable initiative by himself (not as a team), he would not respond to the team related questions of the survey. All the answers recorded to this individual's responses as "n/a" and "I don't know." On the other hand, one participant who agreed to the interview, refused to complete the survey, so I was not able to receive this data from him. Fortunately, answers were obtained to the survey questions from another participant who belongs to the same HOW. This allowed the inclusion of this HOW team in this study.

1. Data from survey on COMPLETED case: Interpersonal processes only.

The analysis of the responses to the five-point Likert component of the survey questions utilized two-way contingency tables involving relationships between pairs of Interpersonal Processes. These Interpersonal Processes included survey data about Communication, Coordination, Cooperation, Collaboration, Cohesion, Conflict Resolution and Trust. Each of the seven interpersonal processes was matched with each of the other ones. For example, Communication was matched to Coordination, later to Cooperation, etc. Then Coordination was matched to each of the others, and this was repeated with each of the variables. I then visually analyzed the contingency tables results searching for the pairs that yielded p-values equal or < 0.05, finding that in this case, only one pair matched that criteria. I then plotted that information

in a table (Table 4), and obtained the corresponding mosaic plot using the specific algorithm in R software.

Table 4

*COMPLETED Case. Two Way Contingency Tables: Interpersonal Processes Only
(n = 9)*

Interpersonal Process 1	Interpersonal Process 2	p-value
Communication	Trust	0.039

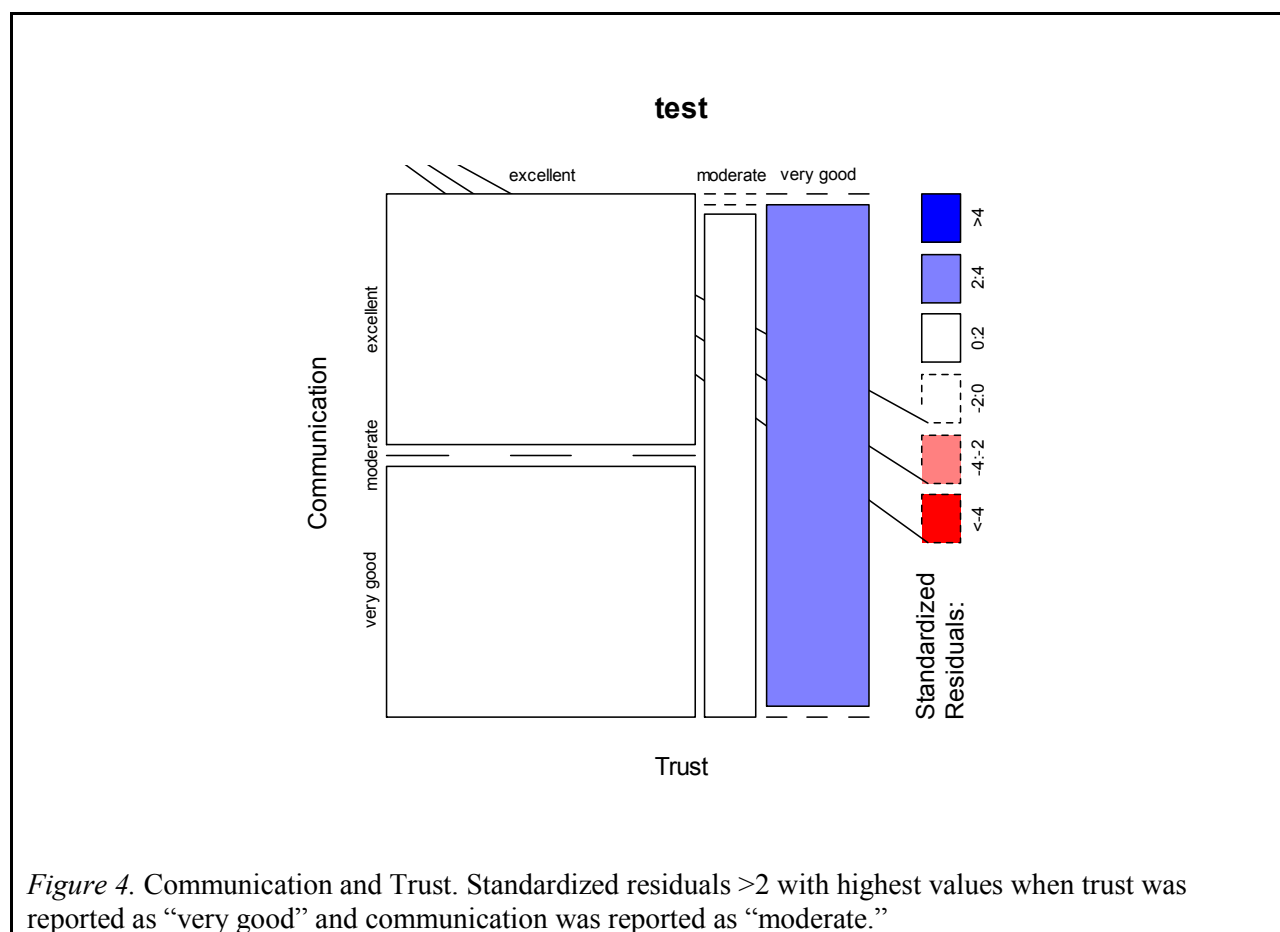
Note: Fisher's Exact Test

1. Communication and Trust.

Using Communication as the treatment variable and Trust as the response, the data show that there is a significant interdependence between the two variables ($p\text{-values} < 0.05$) and the contingency table presents positive standardized residuals > 2 (Fig. 4). Being the $p\text{-value} < 0.05$, the null hypothesis of independence was rejected, and therefore there is enough evidence to state that the two variables are not independent, and there is a relationship between them. This last statement applies to every analysis that is presented in this work, and only those interactions that yielded a $p\text{-value} < 0.05$ were considered significant. The analysis of the mosaic plot demonstrated significant positive standardized residual values > 2 (+2.36). Positive residuals were the highest when Trust was reported as “very good” and Communication was reported as “moderate.” Positive residuals were found when Trust was ranked as “moderate” and Communication as “very good” (+0.79), when both Trust and Communication were ranked as “excellent” (+0.71), and when Trust was ranked as “excellent” and Communication as “very good” (+0.20).

Based on the data, as Trust improves, Communication becomes stronger and tends to improve within the group. The fact that the highest levels of residuals were found at “moderate”

levels of Communication reveals that there are more residuals as the result of this association between variables than there should be if those variables were independent. Those variables appear to be strongly related in this case.



2. Data from survey of COMPLETED case: Interpersonal processes and other survey answers.

Data from the Likert surveys from the seven sites that make up the COMPLETED case was analyzed using R Commander software to develop contingency tables. Each of the seven interpersonal processes and each of the other Likert survey answers ($n = 9$) were analyzed. The interactions plotted yielded p -values < 0.05 and are shown in Table 5. Those interactions were used to generate mosaic plots in R software. In this case, low p -values and significant residuals were found in seven of the interactions.

Table 5*COMPLETED Case. Two Way Contingency Tables: All Survey Data (n = 9)*

Variable 1: Interpersonal Process	Variable 2: Survey Question	p-value
Cohesion	<i>Along the process, the team produced high quality work</i>	0.017
Collaboration	<i>How clear were the team's goals and outcomes?</i>	0.027
Collaboration	<i>I felt comfortable with the level of guidance provided by my team leadership</i>	0.027
Collaboration	<i>Team leadership clearly explained to all members the organization's goals, objectives and plans</i>	0.027
Cooperation	<i>How difficult obtaining technical support and material resources when needed was?</i>	0.015
Cooperation	<i>I was very satisfied with my team's leadership</i>	0.034
Trust	<i>It was clear what unacceptable member behavior was</i>	0.047

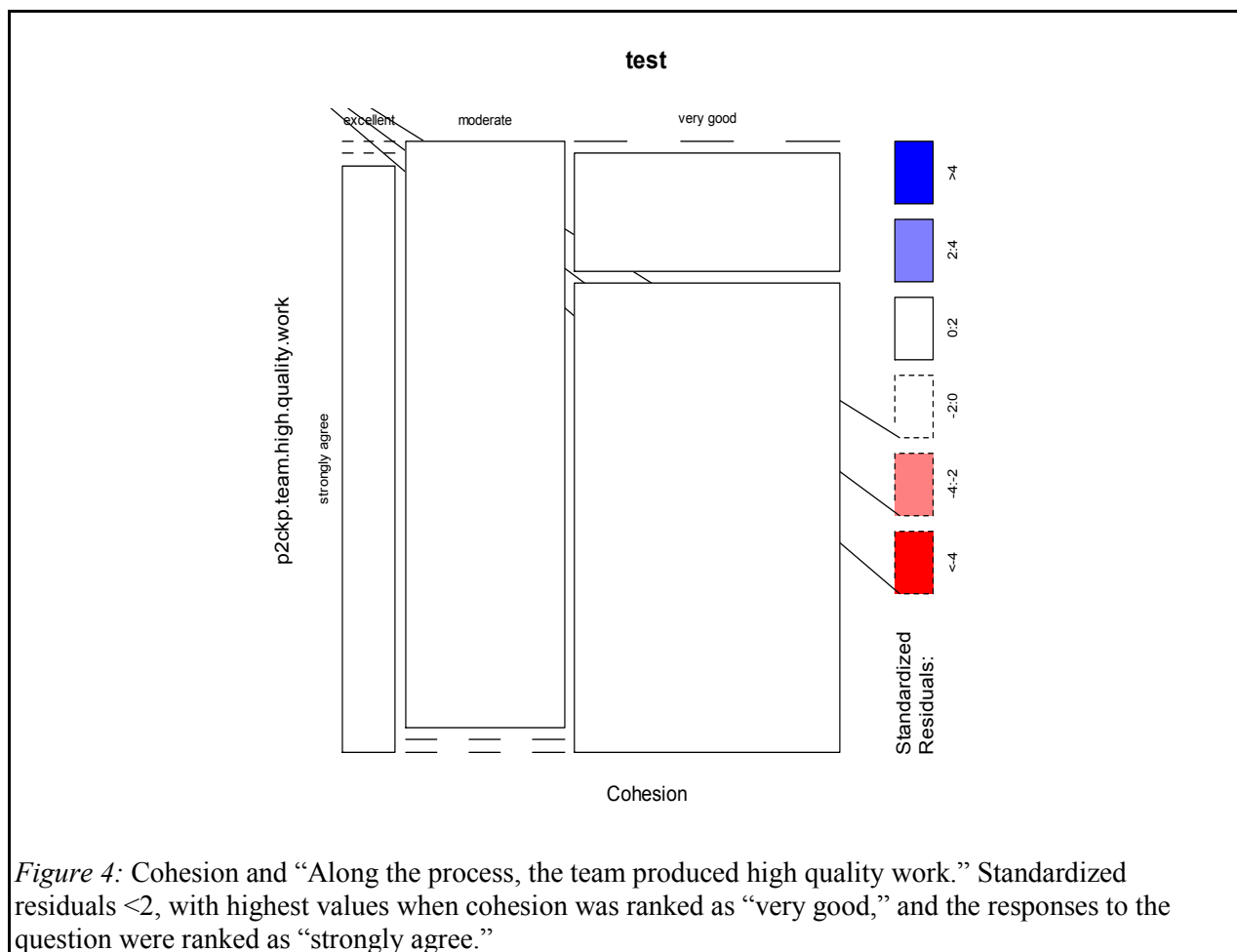
Note: Fisher's Exact Test

Some of the mosaic plots presented standardized residual values between < 2 and $+2$, and for this reason they do not appear displayed in blue in the mosaic plots.

1. Cohesion and “Along the process, the team produced high quality work.”

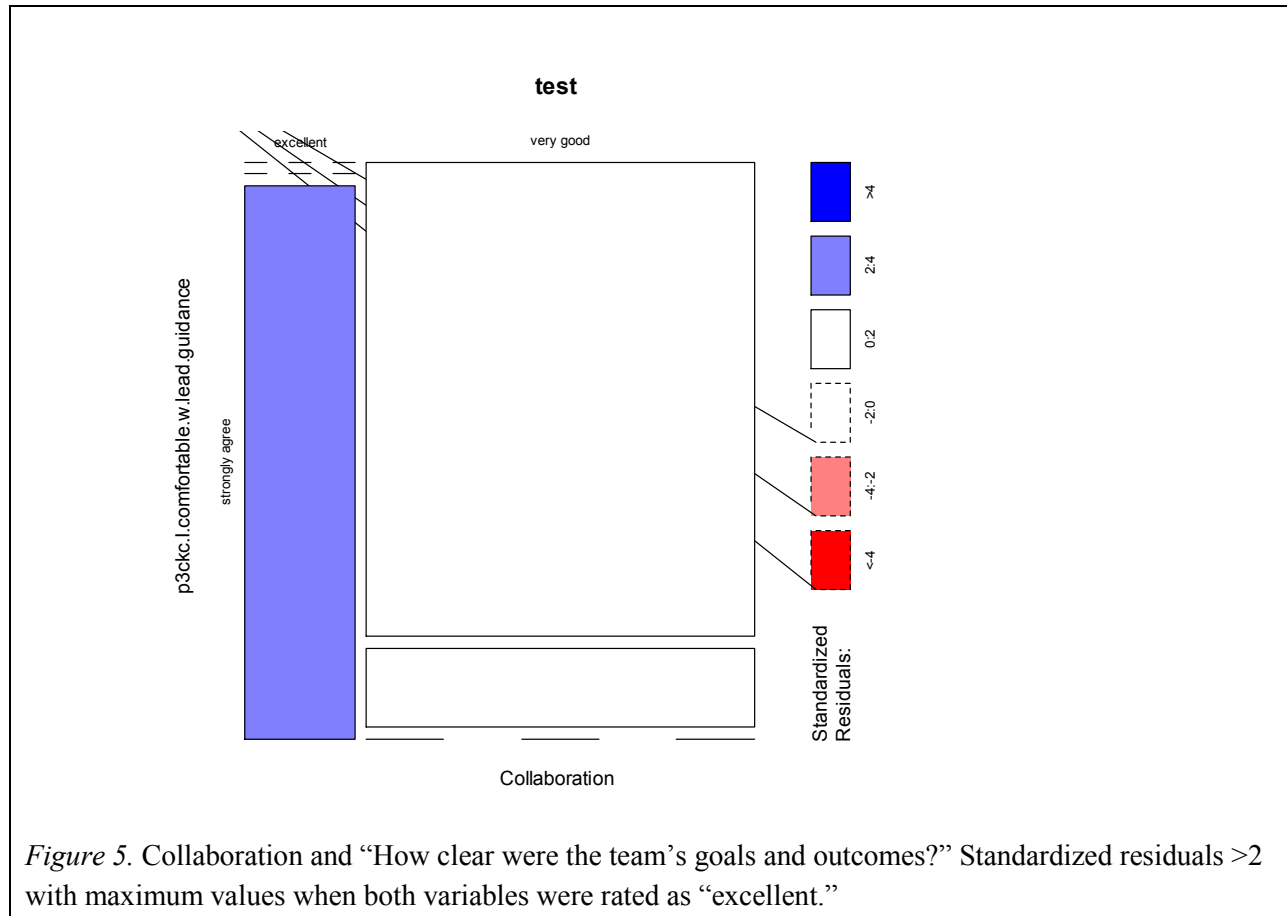
In this case, from the two-way contingency table procedure involving Cohesion and the question about whether the interviewee considered that the team does high quality work, the analysis yielded a p-value = 0.017 and positive residual values < 2 (Fig. 5). The highest marginal values were very low (+0.73), when Cohesion was ranked as “very good,” and the responses to the question were ranked as “strongly agree.” There were also positive residuals when Cohesion

was ranked as “excellent” and the answer to the question was “strongly agree” (+0.59). The data shows that if the group reported that they were performing a high quality of work, the level of cohesion tended to improve.



2. Collaboration and “How clear were the team’s goals and outcomes?.”

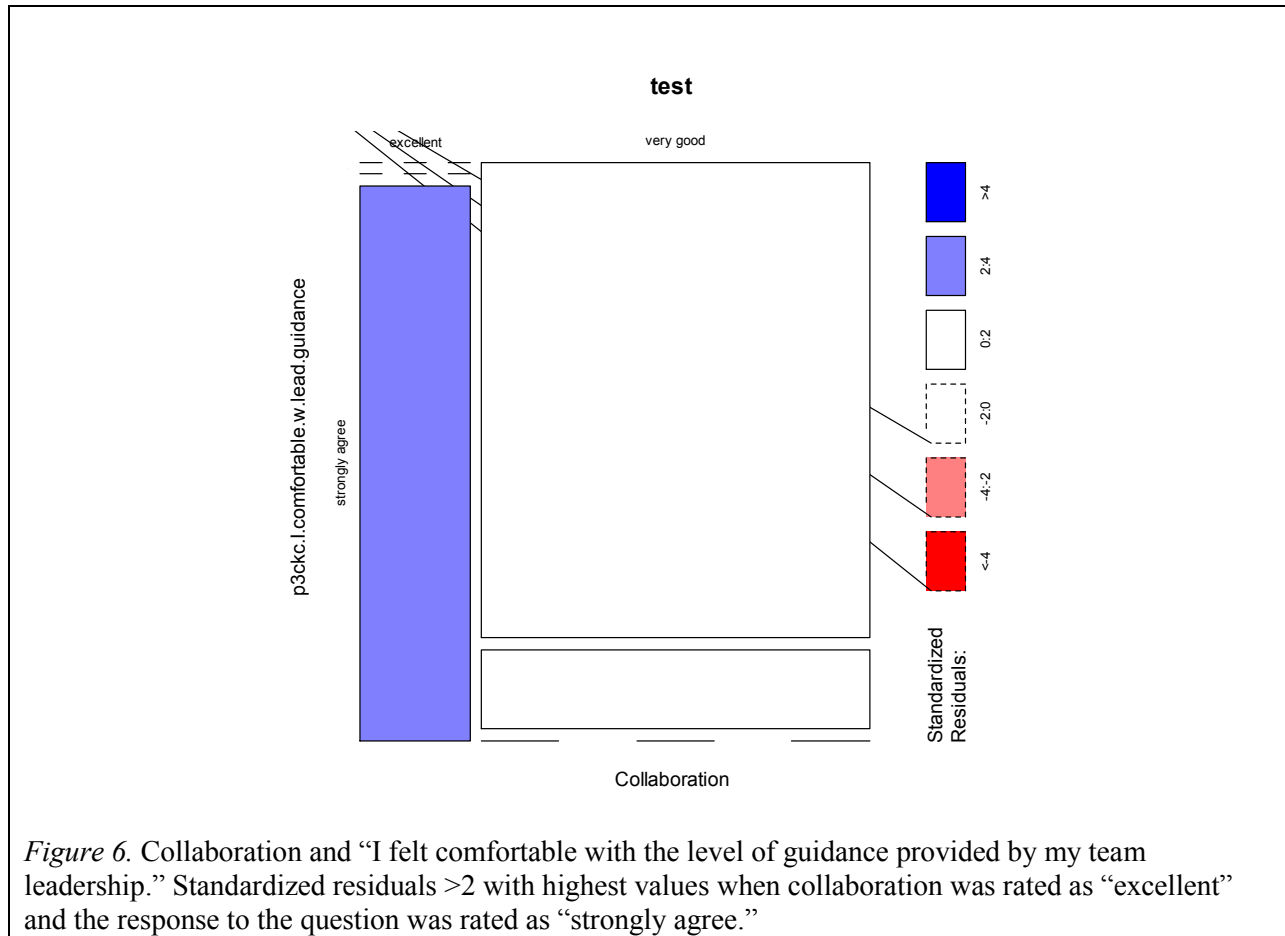
From the cross tabulation process between Collaboration and the answer to the question about whether the team goals were clearly defined, I found a p-value = 0.027, and the mosaic plot shows positive residuals > 2 (Fig. 6). The highest positive residuals (+2.36) were found when both variables were rated as “excellent.” I also found positive residuals (+0.62) when both variables were rated as “very good.” Based on the data, I posit that as the goals are more clearly defined within the team, collaboration tends to improve as well.



3. Collaboration and “I felt comfortable with the level of guidance provided by my team leadership.”

When associating the data from Collaboration and the answers to the question about whether team members felt comfortable with team leadership guidance, I obtained a p-value = 0.027, and the mosaic plot shows a positive standardized residual > 2 (Fig. 7). The highest positive standardized residuals (+2.36) existed when Collaboration was rated as “excellent” and the response to the question was rated as “strongly agree.” The residuals were displayed in blue in the mosaic plot. There were also positive residuals, however < 2, when Collaboration was rated as “excellent” and the response was “agree” (+0.62). Based on the data, as team members

feel comfortable with the team leader's guidance, Collaboration within the team tends to improve.



4. Collaboration and “Team leadership clearly explained to all members the organization’s goals, objectives and plans.”

After performing a two-way contingency table procedure involving Collaboration and the answer to the question about whether team leadership clearly explained goals, objectives and plans, I found a p-value = 0.027, and positive standardized residuals > 2 as it can be seen in Fig. 8. The mosaic plot for this interaction presented the highest positive residuals (+2.36) when Collaboration was rated as “excellent” and the answer to the question was rated as “strongly agree.” Lower positive residuals also appear when Collaboration was graded as “very good” and

the answer to the question was “agree” (+0.62). The data shows that as team members are confident that leadership clearly explains the goals, objectives and plans for the team, Collaboration has a tendency to improve.

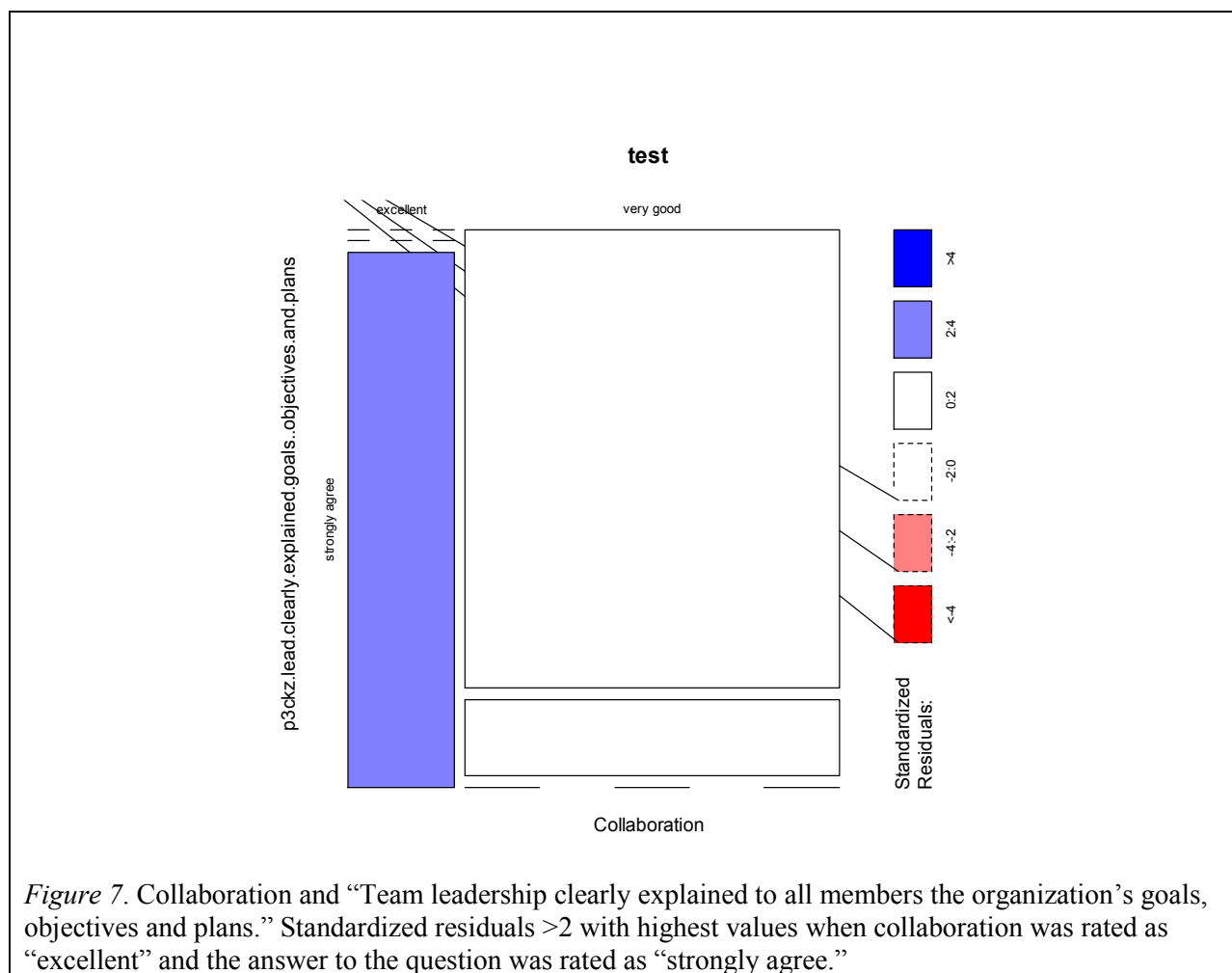
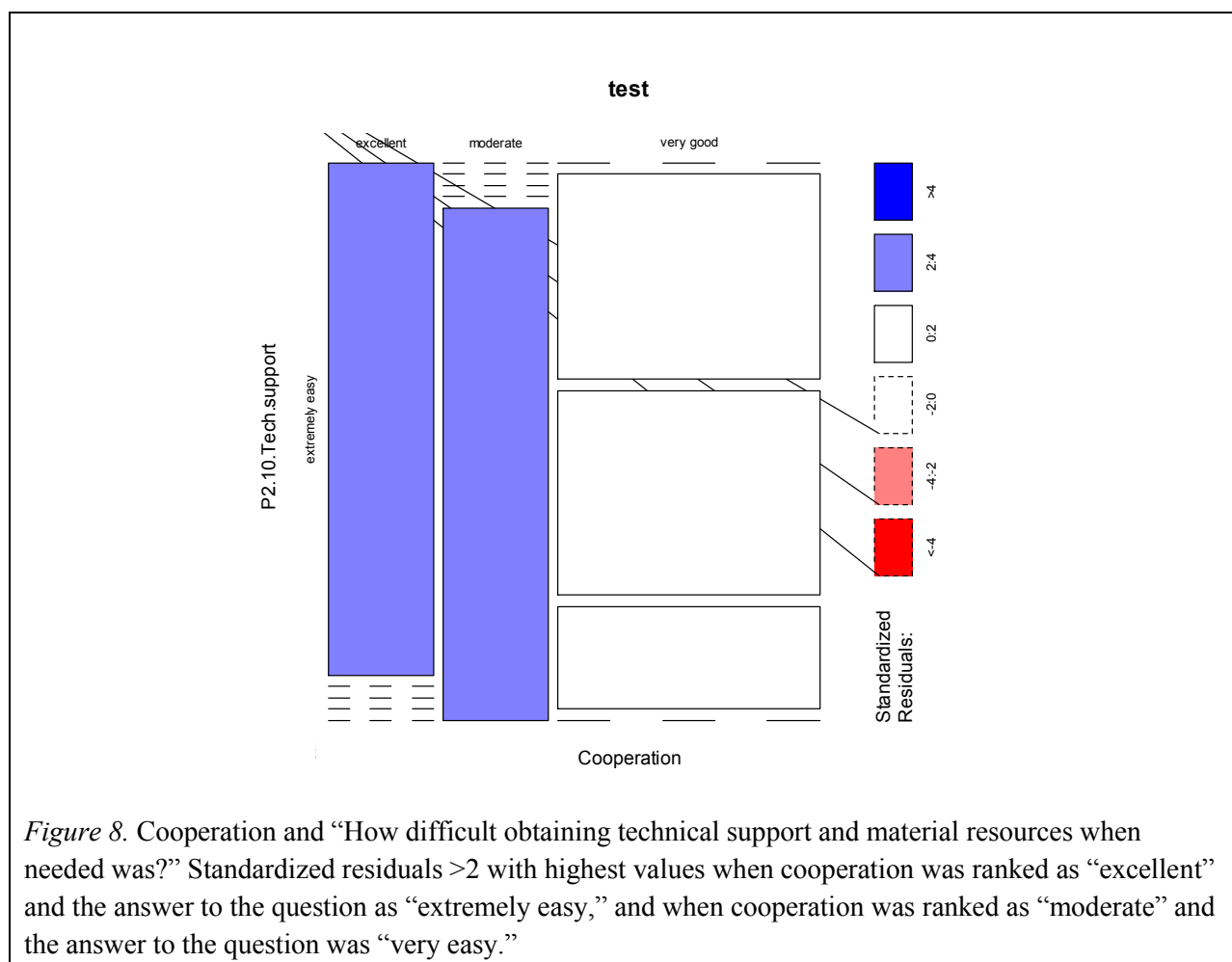


Figure 7. Collaboration and “Team leadership clearly explained to all members the organization’s goals, objectives and plans.” Standardized residuals >2 with highest values when collaboration was rated as “excellent” and the answer to the question was rated as “strongly agree.”

5. Cooperation and “How difficult obtaining technical support and material resources when needed was?”

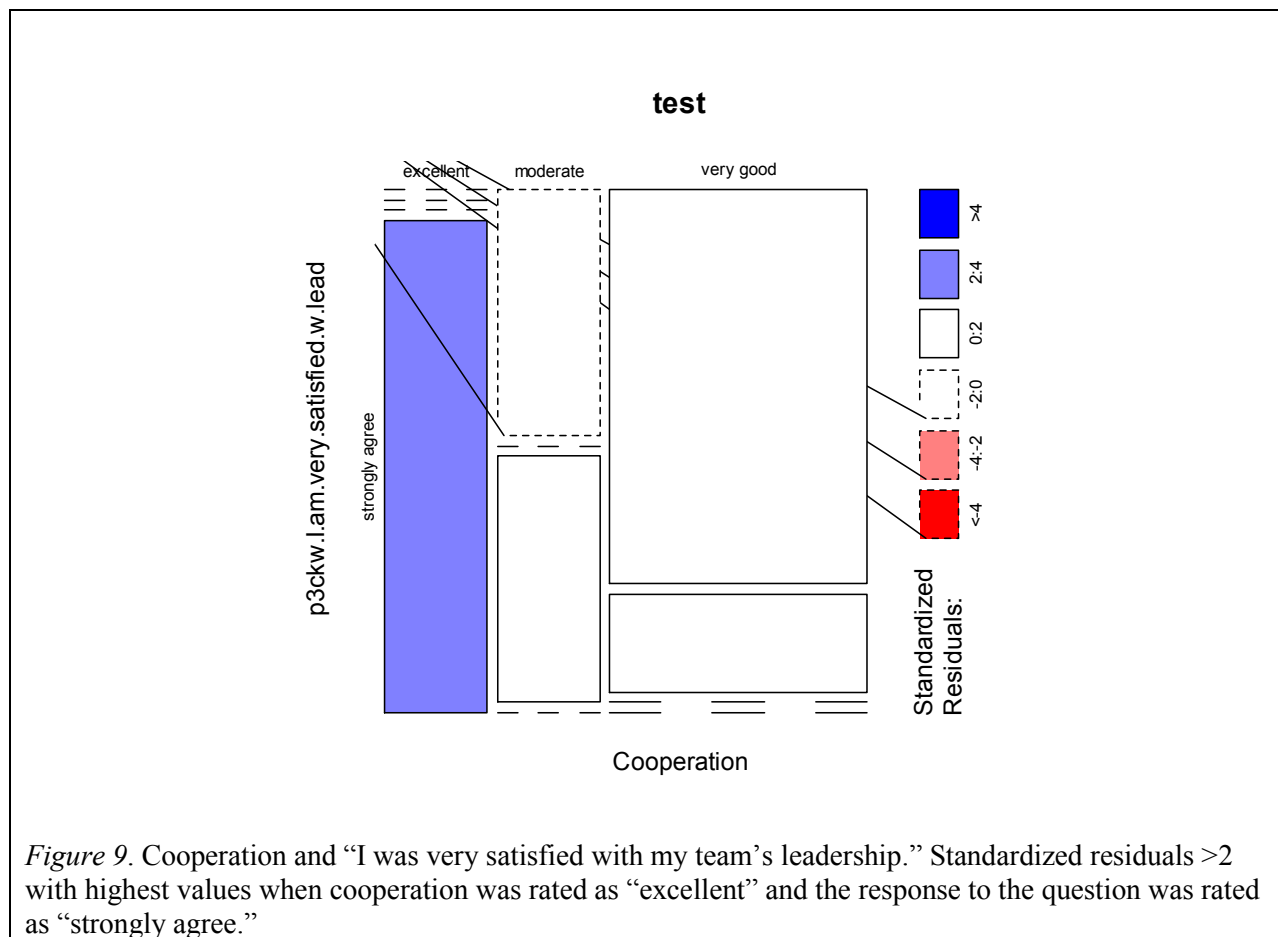
From the association between Collaboration and the answers to the question about whether the team counted on technical support and material resources when needed, I found a p -value = 0.015, and positive standardized residuals > 2, as can be seen in Fig. 9. The highest

positive residual levels (+2.36) occurred in two occasions: when Cooperation was ranked as “excellent” and the answer to the question as “extremely easy,” and when Cooperation was ranked as “moderate” and the answer to the question was “very easy.” There were also positive residuals when Cooperation was rated as “very good” and the answer to the question was “moderately easy” (+0.84). As the team feels more confident counting on technical support, Cooperation tends to improve. I posit that this is due to the fact that counting on technical support on a regular basis helps team members feel confident to envision that they will succeed in their endeavors.



6. Cooperation and “I was satisfied with my team’s leadership.”

From the two-way contingency table procedure involving the variables Cooperation and the answer to the question about whether team members were satisfied with team leadership, the results yielded a p-value = 0.034, and positive standardized residuals > 2 (Fig. 10). The highest standardized residual values (+2.36) occurred when Cooperation was rated as “excellent” and the response to the question was rated as “strongly agree.” There were also positive residuals (with values < 2) when Cooperation was “moderate” and the answer to the question was “neutral” (+1.65), and when Cooperation was “very good” and the answer to the question was “agree” (+0.74). As team members feel very satisfied with team leadership, Cooperation has a tendency to improve. However, this particular interaction shows a positive residual of +1.65 when Cooperation was “moderate and the answer to the question was “neutral,” which reveals that I was able to find more observations in this cell than I should have if these variables were independent. It is possible that some members of the teams included in the COMPLETED case were not completely satisfied with the cooperation level or the team leadership, or both, or they chose to remain “neutral” when responding to the question.

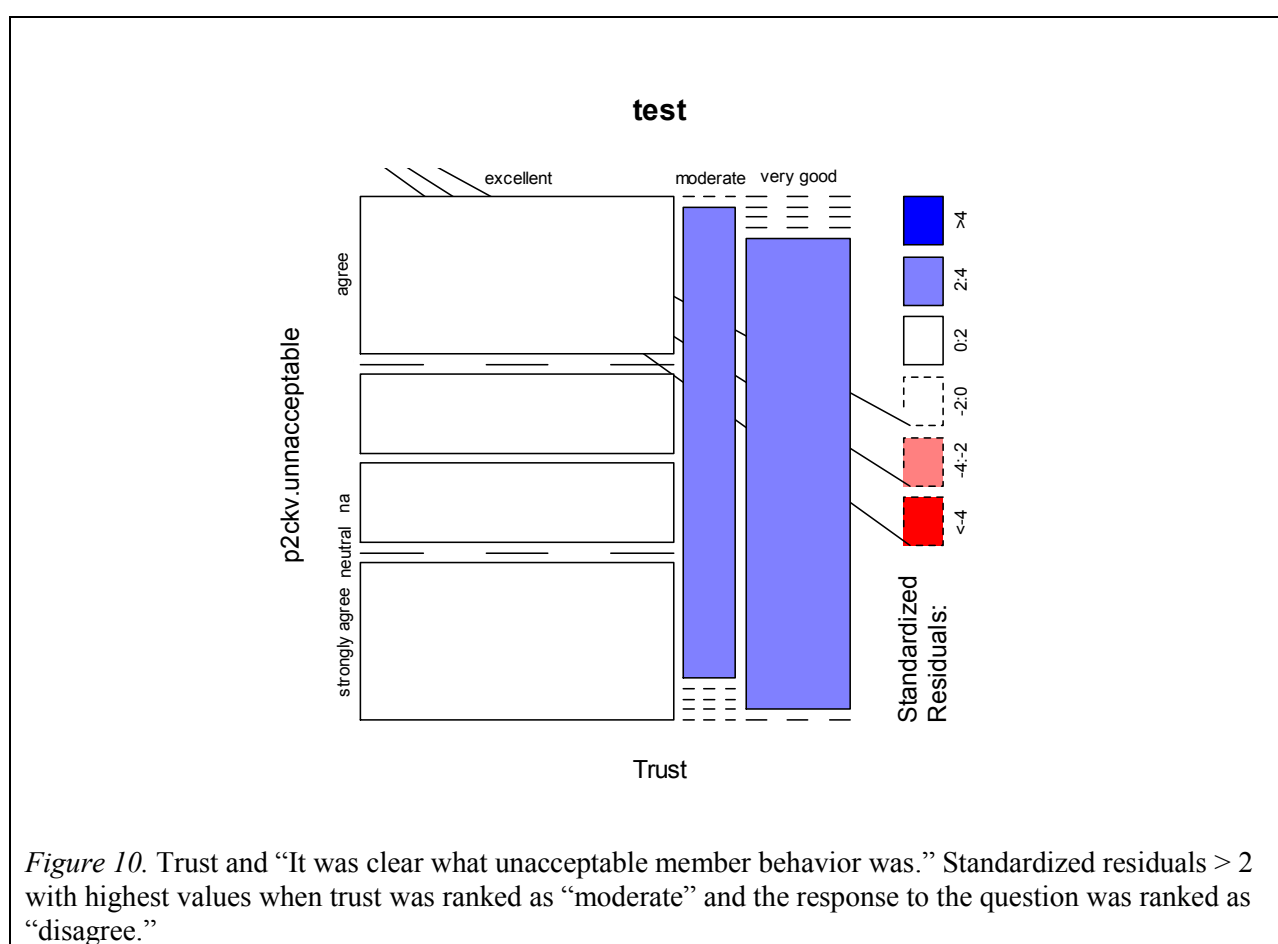


7. Trust and “It was clear what unacceptable member behavior was.”

From the contingency table procedure involving Trust and the answer to the question about whether it was clear what was an unacceptable behavior in a team, I found a p-value = 0.047. The mosaic plot shows positive residuals > 2 (Fig. 11). The highest levels of standardized residuals (+2.70) were found when Trust was ranked as “moderate” and the response to the question was ranked as “disagree.” Meanwhile, when Trust was graded as “very good” and the response to the question was “neutral,” the residual value was +2.36.

When Trust is “moderate,” people tends to disagree about whether it is clear what unacceptable behavior was. In the second case, it means that when Trust is “very good,” people are “neutral” and they do not lean towards whether it was clear or not what unacceptable

behavior was. I then explored other residuals that yielded values < 2 in all cases. When Trust was ranked as “excellent” the response to the question was “agree” (yielding a residual = +0.58), and when Trust was ranked as “excellent,” the response was “strongly agree” (also yielding a residual = +0.58). Finally, when Trust was “excellent,” the response was “I don’t know” and “N/A” consecutively, yielding residuals = +0.40. Analyzing the answers, I consider that this question might not have been clearly understood by all respondents. Based on the data, it appears that there is not a clear relationship between these variables.



3. Data from Interviews

Qualitative data for the COMPLETED case study included data from the semi-structured interview process and a small number of open-ended questions included in the survey. Data was

collected from in person and phone call interviews to the nine participants from the seven HOWs involved in the COMPLETED case. Verbatim testimonials from participants were included in this section as quotes, in order to add validity to the study. For privacy reasons, the real names of the HOWs were changed to “HOW1” through “HOW7,” and each team member’s name was replaced by a nickname with the purpose of preserving participants’ privacy.

1. Team Composition

This theme includes data related to team composition, size and member’s backgrounds.

With the exception of the Rectors, HOW team members operated on a volunteer basis in all the solar PV installation projects and also in the parks greening project. Furthermore, according to Sage, the team from HOW3 sent a “call to action” or a HOWs’ invitation to volunteers in the congregation and the community at large, to lead and execute the work in the parks cleaning projects. They have been successful in engaging different community members, beyond their congregations’ boundaries.

These groups of volunteers included in the COMPLETED case are generally small, consisting of three or four members per HOW in most cases. They did not experience significant changes during the time they were completing their project, with the occasional addition or departure of one or two members. William from HOW5 reported that they had a maximum of seven members and additional people that supported the team on specific tasks. Taylor from HOW6 reported that they had a maximum of four people when developing the project, while Benjamin from HOW7 stated that they have a more extensive group of 10 people involved in all HOW sustainable initiatives. HOW3 counted on four members and also the support of the HOW Vestry. The projects in HOWs 1, 2, and 4 were led by only one person with occasional help from other congregation members or the Vestry. However, they eventually needed the support

provided by the HOW structure, as Alexander pointed out: “... *It was really primarily me driving it, but I had to get approvals from the Vestry, the Finance Committee, the Properties Committee, the Wardens, and the Diocese. So all total ... there were about 20 people consulted.*”

Volunteer team members’ backgrounds were extremely diverse within each of the HOW teams: Vestry members, IT professionals, lawyers, finance and accounting experts, educators, construction experts, engineers, as well as human resources professionals and managers in different organizations. They believe that putting their knowledge and skills at the HOW’s service is part of their mission to protect Creation and help their communities. For example, Benjamin from HOW7, is an IT professional who is also a Vestry member. He thought that along his role as a Junior Warden, he could use his IT background to help move the project forward. He reported that “... *team members and Vestry are trying to keep driving forward, and in the end, I was one of the key decision-making members along with ... our Senior Warden and the Treasurer ... also a member of the team.*” Benjamin also added that his team was a very diverse one. Team members had very different backgrounds and very different needs as individuals (in terms of their own accomplishments), and this was challenging and enriching at the same time, since as a team, the members needed to be able to understand each other’s perspectives and needs and address them, in order to advance the decision-making process. According to Benjamin: “... *financial people need to get at the numbers and ask questions to feel comfortable to move forward ... and technical people need to understand the nuts and bolts of how things work ... to feel comfortable to move forward.*”

Alexander from HOW4 pointed out his role as a leader and organizer of the whole effort. In his day job, he held a position as a lawyer and a project manager. He then decided to put his skills at the HOW’s service as a volunteer. He also designed a financial model to plan and

execute the solar PV project, including the costs and the savings that such project would bring to the HOW over the 25-year life span of the solar PV system. He made advocacy efforts trying to convince congregation members of the benefits of solar energy use. For some people, the environmental benefits are a priority; for others, the economics are more important; and for some of them they are both equally important. According to Alexander, it is necessary “... *[to understand] who are you talking to and to know their perspective, in order to [engage] them, and tailor the pitch to that particular person or group.*”

In his role as HOW7’s spiritual leader, Carl believed that he needed to keep the HOW team focused on the theological reasons for conducting sustainable initiatives. He also believed that his was a shared leadership, and that the team, not him, was in reality the “leader.” In his words: “*I’ve seen my ministry as a sort of walking along with people ... The group was the leader that moved the project forward. I was the organizational representative to the group, and provided the leadership vision and mission.*”

Finally, the diversity of team member’s backgrounds was extremely beneficial to bring different points of skills and capacities to the development of sustainable projects to these relatively small groups of people.

2. *The Project Conducted by the Team*

In this theme, I included data about the project’s length, the amount of time that team members worked together (not only in the project described for this research but also in other past and current sustainable initiatives at the HOW), and interviewee’s insights about their team’s evolution.

Solar PV projects were developed at different speeds depending on the case. On average, most of them were completed in a timeframe between six months and one year. For example,

Edward from HOW2 reported that the process was smooth and fast due to the fact that his case was a demonstration project. Similarly, Benjamin from HOW7 said that the process advanced fast and with no complications, in this case due to the positive influence of the solar installer company. On the other hand, other interviewees reported experiencing delays. William from HOW5 recounted that the solar panels installation can become a lengthy process: *“By the time your committees meet, and you talk to all the important people in your organization ... you have to go out and see different companies and make sure that’s what [the Rector] sets for you.”* William also pointed out that the entire installation process lasted approximately one year, and the utility company’s work to connect the solar system to the electricity grid was a significant source of delay.

Except in two cases, interviewees also reported involvement with other sustainability related projects at their HOWs at the time the solar installation or park greening projects were being developed. These initiatives included recycling, heating systems upgrades, windows replacements, energy audits, retrofits, lighting fixtures replacements (CSL or LED), rain water harvesting or community outreach activities among others. For example, Carl from HOW7 explained that: *“... We continued to [switch] all our lights to LED, when we did the renovation ... We [installed] low flow toilets ... [and all] that really made a great difference in our consumption of resources.”* William from HOW5 reported that his team members have been very prolific in their mission of protecting Creation. In addition to installing solar panels:

“... [We] installed rain barrels, new energy efficient windows, developed and passed written policies relative to [the HOW’s], general requirements about Creation Care and environmentally friendly procurement policy, newsletters, electronic recycling, blog articles, energy savings program in concert with a

local energy services organization, sponsor energy-related forums, involvement with Interfaith and 350.org activities, as well as social events [such as] balls and movie nights.”

Interviewees did not specify the exact total amount of time the team members (or some of them) had been working together. However, most teams evolved from former groups that maintained previous interactions around other activities at their congregations during five or more years before deciding to focus on the solar or park greening project. William (HOW5) pointed out that his team started approximately eight years ago. They had a list of activities they wanted to complete, such as energy audits, retrofits, insulation works, lighting fixtures replacements, and the placement of rain barrels to collect water to service the gardens. They also sponsored community events such as movie nights, forums focused on energy and other events that allowed the team to advertise their sustainable initiatives within the community. They only installed solar panels after most of the other projects were completed or at least underway.

Taylor from HOW6 pointed out the importance of the HOW's solar PV project to bring HOW team members together towards achieving one specific goal. This interviewee explained: “... *I have been the Rector here for [more than 5] years, and everybody had been already in the Church, but this is the first time that [this specific group of people] worked together on something.*” In the same line of thinking, Carl pointed out that being part of the team helped HOW7 congregation members consolidate the group, since they learned to work together:

“Well ... the project served to coalesce this group ... We got to see a sort of the outwards sign of a project or a group working together ... Like any other group, it took a while for them to know each other and figure out how decisions would get made and who would be the appointed person for what.”

HOW teams included in this research reached different levels of evolution, depending on experiences acquired and how comfortable team members felt while working with each other towards a common goal. For example, Daniel from HOW3 believes that the solar PV project was successful due to the fact that his HOW had previously developed other shorter, smaller as well as less expensive and less complicated sustainable projects. The experience allowed people to grow as a team, becoming prepared to initiate a bigger project later.

HOW6's success was due, in Taylor's opinion, to the fact that volunteers were not enlisted to be part of a long term engagement, which would have made them feel overwhelmed. Instead, involving people for a short period of time was more effective since it relieved them from the pressure of feeling they needed to be part of a committee forever. In Taylor's own words:

"I just asked them to help us get this done, and so that was the 'short term thing.' And they still have an interest in it ... a kind of a personal investment in the project... And I have been finding that the more I do that, the more success we have. For instance, if I say let's put on a special garden, it is a short term project that people have to put a lot of energy on, and feel proud of it in the end."

People in HOW teams included in the COMPLETED case have been working together for different periods of time, and there have been few changes in the team composition along time. Most of them have worked together for as long as the projects lasted. In most of the cases, the solar PV project has been the most time and resources consuming project undertaken by the HOW, and the one that demanded more commitment from the team.

3. Project's Start and MIP&L's Influence

This theme includes data about the conception and start of the idea to develop the solar

PV installation or parks cleaning projects, whether it originated within the HOW congregation or it was part of MIP&L's efforts to expand sustainable initiatives in the State of Massachusetts.

When asked about how the project's idea started, team members offered diverse responses. In the projects that were completed for a longer period of time, the idea originated either as part of a demonstration project from a solar company that installed the panels at no cost to the HOW (as a marketing strategy to promote or showcase the solar business), or from a congregation member trying to advance a pioneer initiative to make the congregation appear more sustainable. In the newest projects, ideas came mostly from congregation members' proposals, or consensus within HOW teams, or solar installers' proposals. In these cases, leases and Power Purchase Agreements (PPAs) were signed between HOWs and solar companies to develop the projects. For example, the solar installer company offered a deal to an initial group of HOWs that agreed to install solar, in which case the company was able to lower the cost for each client. Sometimes, the availability of promotional fliers or a "word of mouth" type of advertising was useful to advance the sustainable idea and the business in each case.

It is interesting that in one case, HOW7, the fact that the Church had already installed a solar thermal heating system in the past was very helpful in the process of welcoming solar PV panels. Having a long standing tradition as a green-oriented HOW was part of the culture of their HOW. According to Carl: *"For a long time [our HOW] has been committed to ... Creation Care ... When I arrived ... there were a lot of conversations about ... whether or not it made sense ... to have solar panels."*

Alexander from HOW4 reported that MIP&L provided the team information about a solar installer company that had already a program in place that focused on installing solar PV systems for HOWs. Furthermore, in HOW3 Daniel informed that the team had been working with a

representative of MIP&L's Solar Task Force in a month long process in order to discuss the details of the solar installation process.

In the case of HOW6, the idea came from their Rector. After seeing solar panels on the roof of another HOW in town, the Rector decided to talk to the Chair of the Property's Committee and then recruit others interested in the idea, before contacting MIP&L for advice. According to Taylor: *"After talking to some colleagues who have also done solar churches, we got in touch with MIP&L and they got us ..."* Frank, also from HOW6, further explained that the project entered MIP&L's existing alignment with a specific solar installer company that also had a preexisting agreement with a third party or investor. This investor organization agreed to put its equity at stake for HOW6 and make use of the tax credits and other state and federal incentives through the legal instrument of a Power Purchase Agreement (PPA).

On the other hand, some teams established contact with MIP&L later in the process. For example, Carl from HOW7 reported: *"We ended up working with [MIP&L] after, to be honest. We had some involvement with MIP&L prior to my being involved with the Vestry, but this initiative was really driven through the congregation ..."*

In general, in very few cases participants were specific about whether MIP&L has a strong direct influence on the original idea that led the team to conduct the HOW's initiative, and most of them originated organically within the congregation. While some of the HOWs had a previously established relationship with MIP&L, others reported that their HOW established contact with MIP&L only after completing the solar project.

4. Financing Sources

This theme explores the origins of the financial resources that HOW teams were able to obtain to conduct the sustainable projects to completion. The initial solar PV installations were

made possible through purchase or the negotiation of a lease with solar installer companies. One HOW even agreed to become a demonstration site (a pilot or “showcase” project to promote a solar installer business). According to Edward from HOW2: *“It was a pilot project ... We [were contacted] by this solar installer company and outside [private] grants. It didn’t involve costs to us ... although we did not get solar energy credits or other benefits: somebody else got them.”*

Most of the congregations signed Power Purchase Agreements (PPAs). The solar installations were led by a solar installer company that also had a working relationship with a financial partner that agreed to enter the PPA. Frank from HOW6 explained the process in his HOW:

“[W]e were doing ... PPAs... We said to MIP&L ‘yes, we are interested, why don’t you send your [solar company] people and survey our site?’ And they did. ... We had to wait... several weeks until ... we got the proposal ... and it was favorable. They said our investor was interested in pursuing an agreement with you and then it became apparent ... our 15-year term PPA ... This is basically the outline of the deal, what the price would be for power and how the whole thing works ... I could not believe my eyes. I said this is a no brainer, there is no capital at stake by us, and we are getting a favorable price and better than what we will be paying to [the utility company] for the kWh.”

Marc from HOW1 explained: *“... The agreement was a PPA ... We did not have to pay upfront. The [financial partner] will own the equipment for 10 years, and get the Solar Renewable Energy Credits [SRECs].”*

In the case of the parks cleaning project, HOW3 team obtained seed funding from the congregation and community partners. According to Sage and Daniel, the team obtained \$50 in

seed funding for each parks cleaning project, and \$100 for a banner to promote the cleaning. The City Government provided equipment for cleaning as well as the paint needed. Community members, organizations and businesses also helped by providing the HOW a significant amount of gloves, as well as plastic bags and monetary donations. In addition, a scout's organization volunteered to help execute the project.

Finally, while the parks cleaning project counted on financial support from the local community and the HOW internal resources because the cost was relatively low, most of the solar PV projects in the COMPLETED case needed to obtain external or “third party” financial resources through PPAs due to their cost.

5. Major Obstacles and Sources of Delay

This theme included data obtained through a wide, overarching interview question intended to encourage team members to share their own experiences when facing obstacles, and the strategies they used to overcome them and cope with risk and uncertainties. Only in one specific case (HOW2) practically no problems needed to be solved by the HOW, and no delays existed in the project execution, mostly due to the fact that this was a solar PV installation completely executed by an outside organization. Supporting overall logistics was actually the HOW team's only responsibility. However, in the rest of the cases, interviewees reported obstacles and sources of delays in the installation process, mostly caused by utility interconnection and permits requirements issues. Regarding the utility company, interviewees reported different experiences. In most cases, waiting for the utility company to complete the process of grid interconnection was one of the main sources of delays due to the fact that setting up the “net metering” system represents no source of monetary gains to the utility. Edward from HOW2 explained the net metering details, and while in this specific case he reported no

problems or delays, he described how this mechanism works. This rationale explains the low interest shown by utility companies to have more solar power generation systems connected to the grid:

“At any point in time ... we produce more electricity than we use, often through the middle of summer days. When it happens, the extra goes back to the [utility] grid, and as they take power from our solar panels, it pushes the meter backwards. That’s how we are credited by [the utility company] and don’t pay us anything but it allows us to turn the meter backwards as fast as we can, when we are producing more than we are using. At the end of the month, we are using more than we produce. And we are paying [the utility company] a lower bill because we produce 1/3 ourselves, so that means a lower bill from [the utility company].”

HOW5 experienced delays when the solar PV installer was trying to complete the interconnection. William pointed out that in reality, utility companies are not interested in expanding solar energy use since such expansion takes earnings from them. In the case of HOW6, the solar installer company conducted most of the project, but Taylor noticed that the utility company did not have interest in people using large amounts of solar energy, and they had to wait for them to do the interconnection. This HOW decided to install a solar power system that produced more power than they needed (because of their unique sun exposure and therefore huge potential), and then be able to sell power into the grid. Therefore, the electricity transformer unit on the street needed to be upgraded, which became an additional source of delay. Taylor pointed out that: *“... This is not a very strong system for the net metering credits program ... Whenever we had delays it was because of [the utility company].”*

Alexander from HOW4 also pointed out issues related to the utility's grid connection as significant sources of delay. First, it took between four and five weeks to approve the solar system, and then they needed to upgrade the street electricity transformer. In addition, the meter that they installed was not a "net meter," and this mistake resulted in not obtaining credit for the solar energy that they produced through the solar system for the first two to three months after completion. When they reported the problem, the utility company disregarded their claims. In the end, the utility company had to replace the wrong meter by the right net meter. Alexander pointed out that: *"It was pretty painful, actually. In the end ... we had to figure [things] out, because we had overpaid them for the first two or three months. We had a credit and are still burning through that credit actually."*

Bureaucratic issues also affected this HOW, since several approvals from other committees at HOW4 needed to be completed before submitting the paperwork to the Diocese, so the Diocese would finally approve the installation of the solar panels. According to Alexander:

"Vestry, Finance, Properties [committees] ... there were a lot of approvals to be obtained, and it took time ... Those people don't meet every day... I get one approval, and then I had to get on the calendar for the next group, which may take two or three weeks before they meet. That is the way churches work."

Other issues, both utility company delays associated with the street transformer upgrade and delays related to the Diocese bureaucratic procedures, affected HOW6. However, according to Frank the team used those delays to its own benefit. While struggling with questions from the Diocese about the benefits of signing a PPA to install solar, the team decided to contact the solar installer company early and started performing calculations to articulate a plan for the solar

project. The solar installer agreed to send the experts and submit the proposal for interconnection to the utility company, in exchange for a fee that would protect them financially. Meanwhile, the utility company performed the transformer's upgrade. In Frank's words:

“So it was a \$1,500.00 commitment that we had to make somewhere around there and I think [my team] and I agreed that it was well worth it. So [we said] we will guarantee that we will pay to [the solar installer] no matter what happens with our PPA. It turns out it was a great thing to do, because it does take [the utility company] a long time to reply. By the time they did reply, we were ready to sign the PPA ... I believe the application to [the utility company] was made in April, and we didn't sign the PPA until August, and that was just about the time that [the utility company] had come back and said 'ok, here's the deal: we are going to interconnect to your facility with one caveat: that you upgrade the transformer adjacent to your site' ... so really, their delay didn't cost us anything because we were doing other things in terms of getting the PPA in shape and getting the Diocese comfortable with us signing it... It worked beautifully!”

HOW3 experienced delays due to several reasons. First, the team had to face encumbrances, impediments or inconveniences related to the fact that the utility company owns the access to the electricity poles, and the HOW did not have a standard procedure in place to deal with this issue. In addition, the existing electricity transformer presented other challenges. Then, the team had to embark in a long bureaucratic process to obtain the City Historical Building Commission's approvals due to the fact that the Church is considered a historical building. Finally, the old roofs presented some challenges, needing to be repaired before the solar PV installation took place. Daniel pointed out that the HOW team entered a series of discussions with the City Historical Building Commission, after which they finally obtained the

needed permit.

Finding the right vendor and the right legal help to review the PPA contract was to blame for the delay as well in HOW6, according to Taylor:

“I think one of the major obstacles was that we hadn’t done this before, so we were not sure what a good contract would look like, or if it was a good deal or not. We tried going to another solar company just to get a second estimate. But no other solar companies could give it to us because our roof was [able to support] larger than a residential but smaller than a commercial array, so no one could offer us anything, and no one really knew how churches worked. [Other solar installers] didn’t know that ... They thought that the Bishop could co-sign a PPA for us, which is not true. They didn’t understand that we are financially independent but also part of the ... Diocese ... We could realize that [the people from the solar company that executed the project] were the experts on understanding that...”

Some interviewees reported the need for more cooperation from the community and/or from the HOW Governing Body. In some cases, the upper HOW structure was a cause of delay in their project’s approval and execution. According to Marc from HOW1:

“The solar company needed a signed agreement before January 1st to get the federal rebates. That made the project economically viable to them. But [the HOW’s] Vestry was in no hurry to sign the agreement. [The] Vestry said we were moving too fast, and the agreement form may not be as complete as it should be. Maybe that was the reason why they were resisting.”

Another issue reported was making decisions about the solar company or “choosing a partner” from a pool of partners was an important delay factor. Benjamin from HOW7 pointed

out: *“There were differences in the proposals from the two [potential] vendors ... and really [we went deeply] into understanding what those differences would mean, and how they would affect the power production.”* Benjamin also cited concerns related to the potential impact that the solar installation could have on the HOW’s historically significant slate roof. According to him, this problem was later addressed by finding a portion of the roof that was not visible to the community and also did not compromise the historical section of the HOW.

The rest of the interviewees reported other variables causing delays, such as the lack of monetary resources and expertise. Some participants even shared strategies used by team members and leadership to deal with uncertainties and risk, summarized as follows:

1. Staying calm and continuing to resolve problems one at a time until the project is completed;
2. Using perseverance, and mobilizing and leveraging their networks in order to overcome obstacles with faith and determination;
3. Relying on the team leader’s determination and conviction that protecting the environment was his or her calling;
4. Discussing any potential problems as soon as possible in order to reduce the risks of obstacles and delays;
5. Avoiding the sense of deadline, which reduced stress and facilitated finding solutions;
6. Communicating in an open, transparent and timely manner in order to address any concerns, and
7. Dealing with uncertainties creatively and enthusiastically.

Finally, each interviewee describes his or her team’s experiences with obstacles as what seems to be a peculiar learning journey for many parts involved. However, they report the

following common main issues: obtaining approvals (town permits, HOW upper structure, etc.) and financial support. Particularly in the solar PV projects, the initial high up front cost, the need for roof repairs prior to installation and the utility company interconnection issues were the main obstacles and sources of delay.

6. Project's Milestones

The list of milestones is different for each of the HOW teams, since each case was surrounded by a particular set of circumstances in the process of completion. Regarding the solar PV projects, in some cases the execution was undertaken almost exclusively by the installer company (for example in HOW2). In the other cases, such as in HOW4, HOW6 and HOW7, team members needed to learn how to execute each of the steps.

HOW6's team elaborated a proposal to install solar panels during the Fall of 2012, and they presented the idea to the congregation at the Church's annual meeting in February of 2013, according to Taylor. The team informed congregation members about the energy savings they were going to obtain, and they would also obtain some income from it (by selling power to the grid). The idea was positively received. In Taylor's words: "*... I think that signing the contract was a wonderful milestone ... When the solar panels were installed that Fall, we had the Bishop come and he got up in a [basket crane] and he blessed the solar panels.*"

Alexander provided a detailed account of the events that led to the solar PV project completion at HOW4. He described the following steps towards the project's completion: 1. identifying a provider; 2. finding the investor; 3. shaping the PPA; 4. obtaining all the different approvals (vestry, finance, property, etc.); 5. obtaining approval from the Diocese; 6. having the project plan created and approved; 7. installing the solar PV system; 8. obtaining approval from the town; 9. obtaining approval by the utility company; 10. commissioning.

Similarly, HOW7's steps to project completion were described by Benjamin: 1. forming the initial team; 2. identifying the initial pool of core vendors; 3. making the final vendor selection; 4. discussing costs and seeking approvals from the Vestry. According to Benjamin: *"Once we got all those milestones with the proper approvals... It was basically a matter of identifying the window for when the construction crew could get there and get everything set up and running."*

In summary, the main steps for the solar PV installation can be summarized as a simple sequence as reported by Marc from HOW1: the signature of the letter of intent, followed by the procedure for the full purchase agreement, the installation and the commissioning of the solar PV system.

7. Motivations to Volunteer and Inspirational Sources

Participants reported a diverse spectrum of motivations to volunteer towards developing the sustainable initiatives. This theme focuses on people's motivations, internal and external, to volunteer their time, efforts and sometimes their own financial resources to help their HOW's sustainable initiatives. It also focuses on people's sources of inspiration to do so, such as a person, any subject or any other entity without which they would not be volunteering at their HOW.

For example, according to Alexander his motivations to volunteer at HOW4 stem from the fact that he is a member of the HOW and he and his wife are very happy to be part of such a nice community where they can send their children to the HOW's school program. In addition, he has always been interested in environmentally-related issues such as global warming. According to him, having solar panels installed in his house would not be enough. Having them installed at the HOW, instead, implies a more meaningful impact in the community. According

to Alexander: “... *The Church, which has a much bigger power use, was an interesting way to make a bigger impact than I could have made personally.*”

Benjamin from HOW7 focused on the realm of everyone’s personal qualities and skills that can be offered to the community: “*It is the culture of [our HOW] ... there is a time and place that each team member has a different gift to give, and we are all fortunate to come together as a ... team for that time.*”

For Carl, also from HOW7, volunteering is an imperative. He also stresses that it is important that the HOW can be a living example of what the congregation believes and lives for. This ensures that the message is going to reach people and resonate within the congregation. In his words:

“I am motivated to volunteer because of the same reason I am passionate about the food pantry, or our work [internationally], or anything that we do. It is our commitment to care for the environment ... I am always looking for ways that this community can live into that ... We get other things that we hope for the Parish to talk about what they can be doing in their own homes. So the church serves as an image and a symbol for the people to be able to do that in their own lives. But if you tell them on Sunday mornings that they have to be a better steward of Creation and the church isn’t doing anything, then we are hypocritical, so we can’t do that. We have to be a living example of what it is we are hoping people are trying to do in their own lives.”

The sources of inspiration reported by participants are internal as well as external to the HOW community. For example, Alexander from HOW4 recalls being inspired first by a Bishop and later by a former HOW minister or pastor who gave him the opportunity to lead sustainable initiatives at the HOW, where he could make a difference. He has always been interested in the

environment: *“It was a matter of reading ... National Geographic and various magazines, and coming to the conclusion that global warming is real.”*

Other interviewees also commented on being inspired to lead sustainable practices as part of the HOW’s environmentally-oriented culture. According to Benjamin from HOW7:

“I actually think that it is really part of the fabric of how [our HOW] thinks and acts. So I don’t know if it is divine inspiration. So, many of us really [want] to minimize our footprint and our impact ... We want to preserve as much as we can for our children, and our children’s children ... You don’t have to do a lot of efforts, it can be small things, but you are trying to do your part, and this way we [save money] and we can try to do a little more.”

In the same line of thinking, Carl who is also from HOW7 pointed out: *“I certainly think that [Diocese authorities] ... calling our attention [towards environmental issues] helped, but the Church has had solar panels for [many] years, so it is in the DNA of this place and that is important.”*

Frank from HOW6 commented on the ultimate meaning of doing sustainable practices at the HOW:

“I guess it is partially trying to be a good Christian as we are trying to do in our Christian community. It is part of it also trying to be a community member to my specific parish, I know a lot of people there, I ended up having a lot of friends, and a lot of recognition of me to them and them to me. But I also had connections with the Diocese. It turned out that because of our success, the Diocese was actually asking if we were willing to help other parishes in their search for green

power. We said sure, why not? ... It was part of my comfort with that business ...

I've been in the power business for most of my working career."

In summary, for some people motivations to volunteer are internal, such as the need to satisfy their own interest to tackle climate change related problems and to do the next good thing by undertaking the mission to protect God's Creation. For some people are more external, such as belong to and protect a community that cares about their HOW and the environment, and that also wants to be sustainable and save money and energy for the Congregation. For some people both motivations coexist.

8. Team Members' Insights about Their Project Experiences

This theme included team members' insights and reflections about what they would change or improve (if so) if they had to conduct their projects again. Team members shared the main elements of their newly acquired knowledge and some reflections about what they learned from their experience working in their sustainability initiatives. Some interviewees reported that the implementation of the sustainable project at their HOW presented no problems, and therefore, they cannot point anything that they needed to change in order to improve the process. Edward from HOW2 reported: *"It all went very smoothly. It was pitched to us at a Vestry meeting, and it was advocated by our Pastor. It was a very easy, once in a lifetime process for us."* Taylor considered that there was nothing that could have been done differently at HOW6, and celebrated the team's success that has been also recognized by the Diocese: *"We are a kind of an authority for people in the area for putting solar panels on churches. Whenever the Diocese has a church that's wondering about it, they send them to us and we share our experiences with them."* William from HOW5 pointed out that planning ahead was a key ingredient for their team's success: *"We planned ahead of time. I knew the questions [that the]*

committee had, and I re-wrote the questions, sent them and came up with the answers. Then we shared that information with the solar company, which made it quite simple.”

Other interviewees emphasized the importance of planning ahead for all the required bureaucratic procedures from the Diocese and the HOW, in order to save time and efforts. According to Alexander from HOW4: *“At the start of the project I did not know what approvals I needed ... If I had known [it], I probably might have been able to get them more efficiently.”*

Taking into account that these were successfully completed projects, interviewees did not report major changes needed, and mostly agree on the need to plan in advance all the steps for the project’s execution in order to save time and resources.

9. Impact of Sustainable Initiatives within the Congregation

This theme includes information about whether interviewees were aware that their sustainable initiatives have had an impact on the HOW congregation and the extended community, and how they can assess or evaluate such impact. For example, Marc from HOW1 reported how he chose the installer company for his own home solar project: *“I only found out about this company and this opportunity [to install solar PV panels] by initiating the investigation for [our HOW].”*

When describing the HOW2’s experience, Edward also described his own experience with solar PV installations in his house:

“I have solar in my house ... In reality, I was involved [with the solar installation] at the Church 10 years ago, and I thought let’s make this for my house. I have had the panels for 3 years now. So three years ago, several companies were literally putting wires in everyone’s door, so I thought it is time. The incentives the state

was providing made economic sense. I have a lease agreement [and] I get the SRECs.”

Benjamin from HOW7 stressed the importance of the knowledge acquired from their collaboration with MIP&L. The interviewee also described his experience developing sustainable practices in his own house:

“I use the spreadsheets to track consumption ... We try to replace [lighting features] with LED lighting wherever we can, and we’ve got the insulation ... My house unfortunately has many trees and not a good solar exposure, so we can’t go through the solar process ourselves, but it is something that we definitely investigated, so I know a lot of the congregation is looking at these types of things.”

When asked whether other people in the congregation are aware of the HOW’s sustainable initiatives, and if they are feeling compelled to take those ideas home, some interviewees responded positively while others state that either they do not know whether other congregation members have done that, or people are not aware of the initiatives at the HOW. Edward from HOW2 pointed out that their solar panels were installed several years ago (between 5 and 10), and some congregation members are not aware that the panels exist. However, the congregation has been greatly benefitting from the energy savings that the solar system was bringing:

“We are cutting our carbon footprint, we are becoming more efficient.’ And with the price of oil heading to 4 dollars a gallon [at that time], we were looking at a heating cost of nearly US\$ 20,000.00, and with that conversion we cut it down to US\$ 6,000.00, so people [agreed that] it made a lot of sense. I think, again, with a good

compelling economic argument ... you can sell a solar system to a congregation. We stand a green church, when 10 years ago it would not be that important because the technology was new and don't think people were as worried about climate change as [they are] today."

In other cases, parishioners have taken the first steps in the process of adopting solar.

According to Marc from HOW1:

"... I know that people at the [HOW] have explored solar. A few of them have put them on their roofs ... We have 32 parishioners [that] have already done the audits and retrofits and they are buying into it. Some people talking in the coffee hour say [that] getting it done is a no brainer. Now it is word of mouth. I have convinced some people. Some are afraid to do it, so I have gone and sat with people and stayed in their houses with them while the engineers do their things."

According to Carl, due to HOW7's commitment to taking care of the environment, some parishioners also installed solar panels in their own houses, becoming the first group of people to do so in the area. Things materialized very easily because they felt that installing solar panels on their available rooftops was the right thing to do. Similarly, Sage and Daniel from HOW3 commented that people's motivations were not about metrics, or electricity consumption reduction or money saved to the congregation. They were concerned about the role that each individual had in the congregation and how this project would potentially empower such role. Empowerment and doing the right thing, were their main motivations, and they felt supported and empowered by team members and leadership. In Daniel's words:

"The community was behind it. [Each project's success] ... inspires you to look at the bigger picture. [Being environmentally involved ... breaks the mold you have in your

house [that says that] it is necessary that things make financial sense to be viable. Yes, they need to make financial sense, but you should not forget what the right thing to do is. People have different pictures of what makes financial sense.”

Taylor from HOW6 reported that their success in their HOW’s endeavor was validated by the abundant national attention given by MIP&L and IPL. IPL presented them with an award for significantly reducing their carbon footprint. Public recognition was also a significant proof of success for HOW5: according to William, the most compelling proof of their success and at the same time a motivation to continue to do their work, was at the congregation meeting in which they announced they had already installed the solar PV system. On that occasion, people at the meeting congratulated the team and celebrated their accomplishments. According to William “... we got a standing ovation from our people.”

The benefits of energy cost savings were the most compelling proof of success for HOW4. According to Alexander, it was important to have the solar power generation capacity at the HOW because in the long term, the cost of fossil fuel based energy from the grid will become higher than the cost of the energy generated through the solar panels: “... it is costing now 21 or 22 cents, and we are paying 13.5 cents. We are saving about 8.5 cents per kW/h.” Alexander also added:

“The financial impact ... I can quantify ... easily, and I think it correlates ... well to the environmental impact. So I am very convinced that this was a great decision ... We put information about the solar system in our monthly news [publication] in our whole congregation. Honestly I am sure most of them don’t pay too much attention, so many people probably don’t know precisely what the impact was, and that’s just a matter of us doing a better job of communicating how good it has

really been to those people.”

In HOW6’s case, Taylor pointed out that the success in capturing people’s interest in the educative aspects of monitoring the operation of the solar panels: “... *I think one of the guys in the committee has panels ... at his work ... He [publishes] in our website how much energy was produced, how much energy savings are occurring, and how many trees are saved.*” Benjamin also pointed out the educational benefits to both the HOW7 congregation, and the community at large. In addition to monitoring energy cost savings, a practical benefit, it is possible to track the volume of carbon dioxide the HOW is not sending into the atmosphere using the solar PV tracking system, accessible online:

“We were able, at any point, to go to the website and track our progress, for the report on an annual basis, and see our results ... Also, as part of the education [process] we would share materials that show how much greenhouse gases [emissions] we were eliminating ... Then you can see an indirect benefit in the reduction of the environmental impact of what we were doing. So from all those aspects I think everyone involved feels really very successful.”

Carl stressed the importance of communication and maintaining people in the congregation and the whole community informed about HOW7’s activities:

“We report back, we have information on the bulletin board, people are curious about it, people ask questions about it. They have joined the Parish because of it. We have a lot of evidence to say that it was received positively. People in the congregation was really excited about it, people were very proud, people felt like not only we were doing something great for the environment but we were living into the legacy of ... the previous [thermal] solar panels system ... and [we] got

complete backing from the Vestry, from the leadership and from the congregation at large. Nobody thought it was a bad idea.”

Finally, in several cases, participants mentioned the great rewarding and emotional ceremony in which a highly respected Bishop from the Episcopal Diocese of Massachusetts performs a panels blessing ceremony immediately after the solar PV system is commissioned. The HOW's entire congregation gathers after Sunday Mass outside the HOW building, and attend a ceremony that inspires individuals and their families to protect Creation. Most of the time, the ceremony draws public attention from the local media (mostly newspapers), and this allows HOWs to showcase their efforts and encourage others to adopt solar energy or implement other sustainable practices as well.

ONGOING Case Study

The HOW selected for this case is located in a vibrant community in the Boston, Massachusetts, metropolitan area. The congregation members included in this case call themselves the “Energy Team,” and they are fully committed to environmental stewardship. The HOW's governing body placed under that team's management significant funding resources in order to advance sustainability initiatives that contribute to take care of God's Creation. The team counts on a very charismatic leader, specifically appointed by the team to lead it. This leader has extremely well developed social and management skills, being very dedicated and passionate about sustainability, with an extensive previous experience in the field. When team members were asked to participate in this research, they were extremely welcoming and cooperative. They agreed to complete the survey in the two requested iterations, and also allowed me to be present at all the team's interaction opportunities to perform observation. These

interactions included all monthly meetings and other events, as well as email communications maintained at all times, in which the team needed to organize task performing, resolve issues or build consensus in order to make decisions in the process of completing their three ongoing projects: efficient windows installation, lighting fixtures replacements, and room insulation. The two focus groups needed in order to collect data for this research were held at the end of two of the team's regular monthly meetings, and they lasted between 20 to 30 minutes. They included the completion of a questionnaire, an interview for data verification, and gathering of additional specific information on the three projects. At the end of the last project meeting (closer to the end of 2015), additional information was gathered from the HOW, including insights and final thoughts from each of the team members, as well as their reflections about their achievements and opinions about their future plans.

The following sections present the results obtained from the responses to the survey questions (including answers to open-ended questions), the data collected from other questionnaires prepared for specific topics inherent to this team, and the data from the observation process.

4. Data from survey (First Iteration): Interpersonal processes only

This section presents the results of the contingency tables processes using pairs of interpersonal processes only, based on the survey responses to these variables. After performing all the Fisher's Exact Test procedures in the R Commander software environment (as described before), the interactions that yielded p-values <0.05 were selected and presented in Table 6.

Table 6

ONGOING Case. Two Way Contingency Tables. Interpersonal Processes Only. First Survey Iteration (n = 7)

Interpersonal Process 1	Interpersonal Process 2	p-value
Collaboration	Coordination	0.028
Collaboration	Trust	0.038

Note: Fisher's Exact Test

1. Collaboration and Coordination

From the cross tabulation using data corresponding to the variables Collaboration and Coordination, I obtained a p-value = 0.028, and the positive standardized residuals presented values < 2 (Fig. 12). The variables were then interrelated. The highest standardized residual values occurred when Collaboration and Coordination were both ranked as “excellent” (+1.51). The residuals were also positive when Coordination was ranked as “very good” and Collaboration was ranked as “moderate” (+0.80) and “very good” (+0.80) successively. I posit then that as collaboration improves within the team, coordination of tasks tends to improve as well.

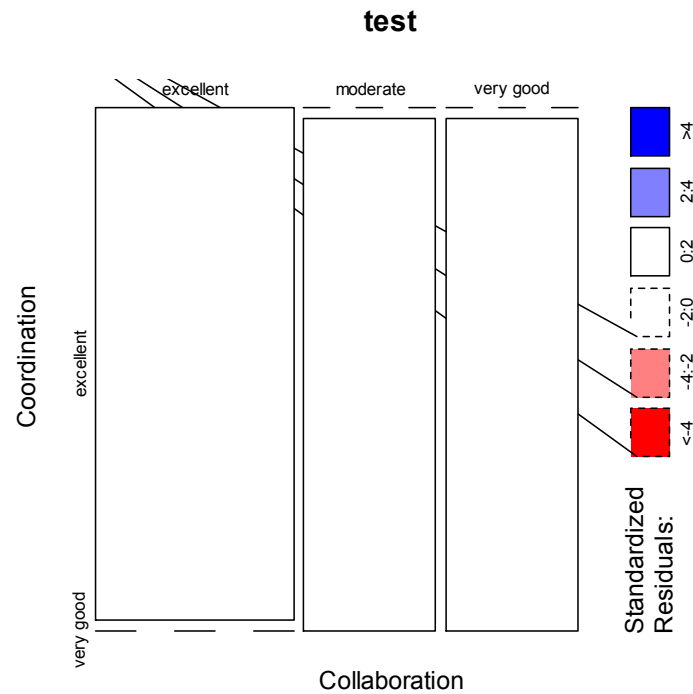
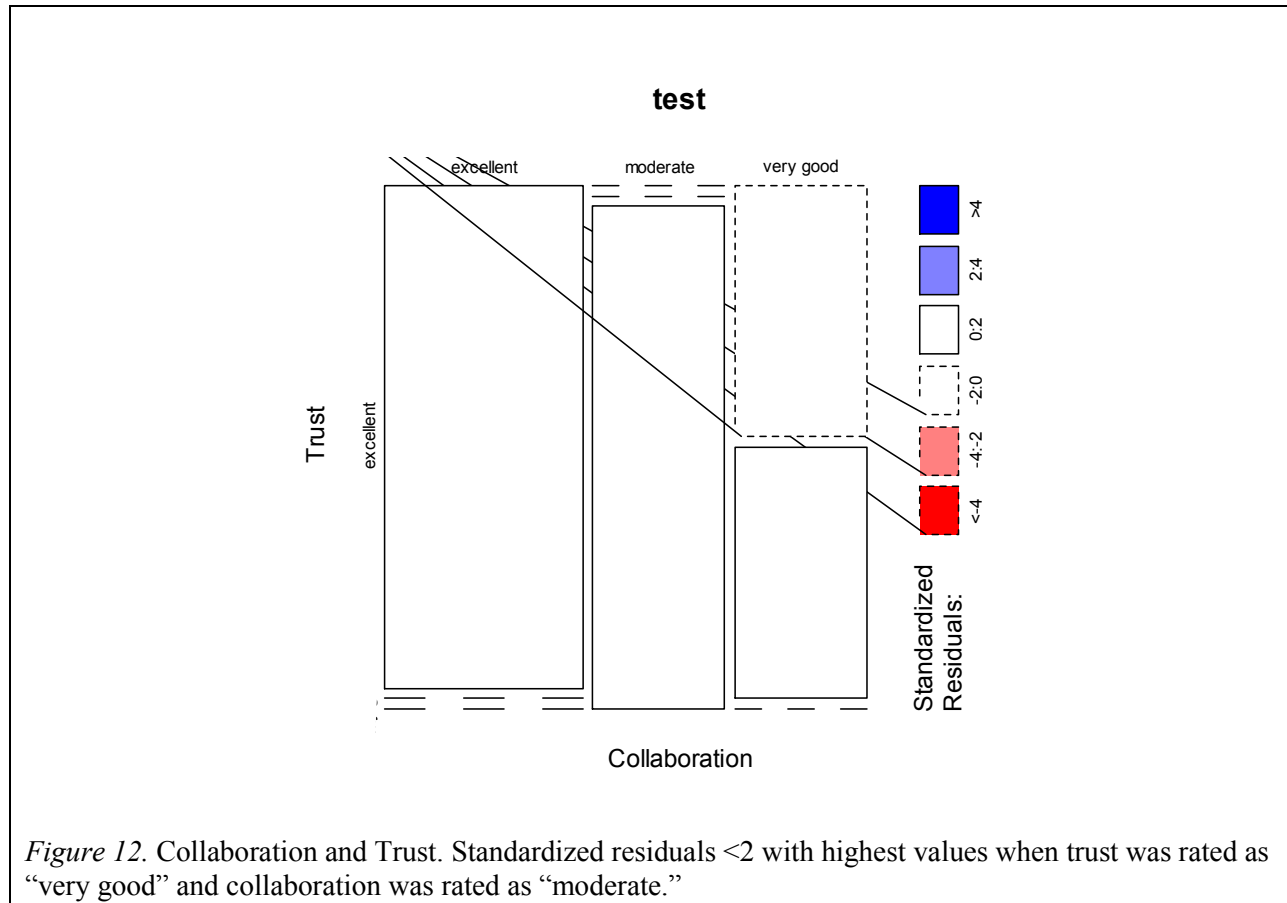


Figure 11. Collaboration and Coordination. Standardized residuals < 2 , with highest values when Collaboration and Coordination were both ranked as “excellent.”

2. Collaboration and Trust

The contingency table associating the variables Collaboration and Trust yielded a p -value = 0.038, and the standardized residuals had values < 2 (Fig. 13). The highest standardized residuals (+1.91) were found when Trust was rated as “very good” and Collaboration was rated as “moderate.” There were also positive standardized residuals when Collaboration was “very good” and Trust was “moderate” (+1.31), and when Trust and Collaboration were both ranked as “excellent” (+0.98). I posit that as trust improves within the group, collaboration also tends to improve. However, a relatively high number of residuals were found when Collaboration was “very good” and Trust was “moderate.” It is possible that people might have entered their answers about Trust in a conservative manner. It is also possible that collaboration among team members is, in fact, significant even at moderate levels of trust.



5. Data from survey (First iteration): Interpersonal processes and other survey answers

This section presents contingency table procedures applied to each of the Interpersonal Processes with the responses to each of the survey questions. The list of interactions that yielded p-values < 0.05 are presented in Table 7.

Table 7

ONGOING Case. Two Way Contingency Tables: All Survey Data. First Survey

Iteration (n = 7)

Interpersonal Process	Survey Question	p-value
Cohesion	<i>Team leadership values and recognizes my individual contributions</i>	0.047
Communication	<i>Team leadership encourages people to communicate their opinions</i>	0.028
Conflict Resolution	<i>How frequently does team membership change?</i>	0.047
Conflict Resolution	<i>How satisfying working in this team is?</i>	0.047
Conflict Resolution	<i>Team leadership manages change efficiently</i>	0.047
Conflict Resolution	<i>Team leadership is able to efficiently draw support from the community</i>	0.047
Conflict Resolution	<i>Team leadership focuses on creating a healthy, comfortable work environment</i>	0.047
Coordination	<i>Team leadership is able to efficiently draw support from the community</i>	0.028
Trust	<i>I would highly recommend this team to successfully complete a sustainable project</i>	0.028
Trust	<i>Team members are motivated to have the team succeed</i>	0.028

Note: Fisher's Exact Test

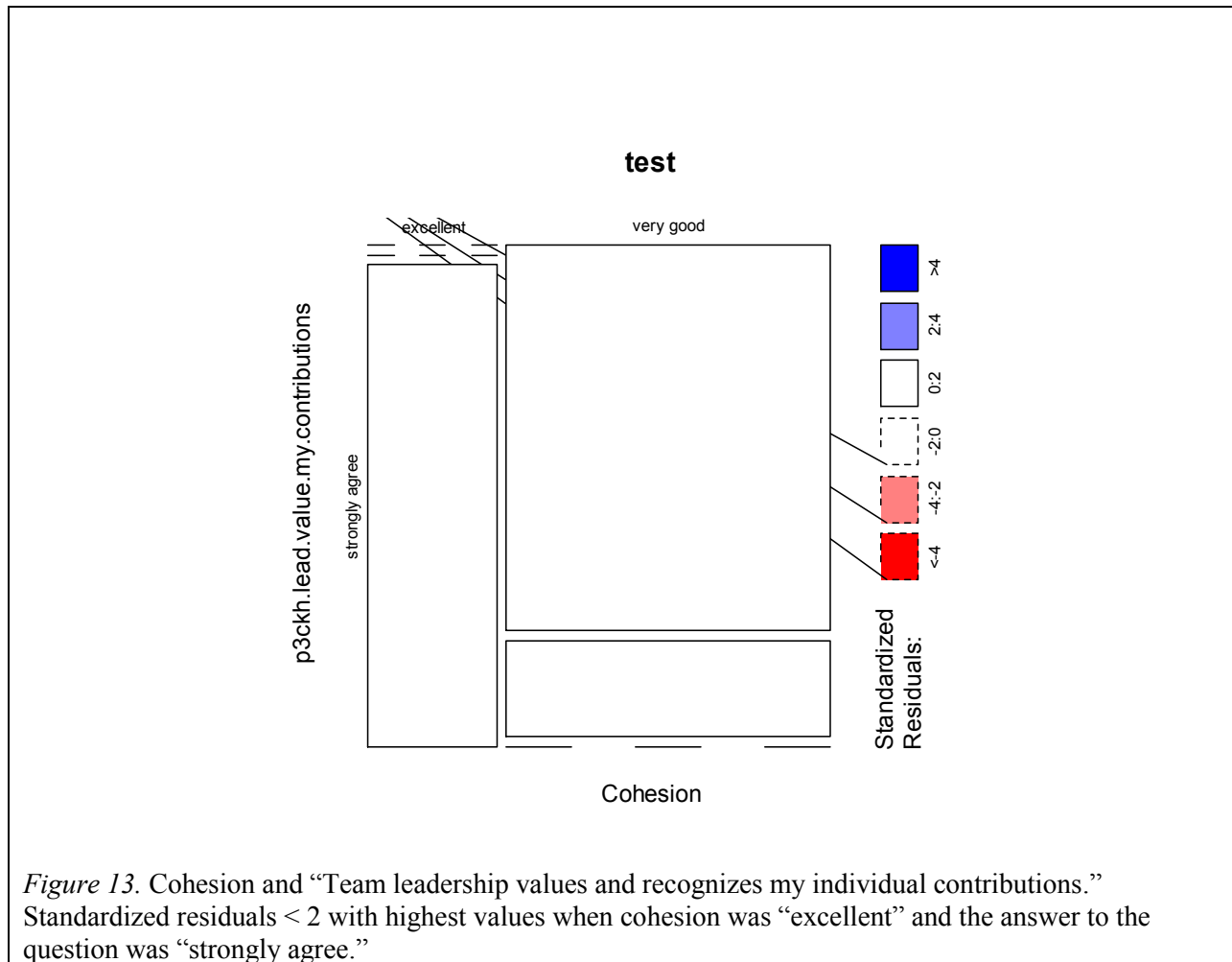
The following mosaic plots graphically represent the interactions that appear in Table 7.

1. Cohesion and “Team leadership values and recognizes my individual contributions.”

The contingency table procedure involving Cohesion and the answers to the question about whether leadership values team members' contributions yielded a p-value = 0.047 (Fig.

14). The standardized residuals were ranked as < 2 , being +1.96 the highest value when

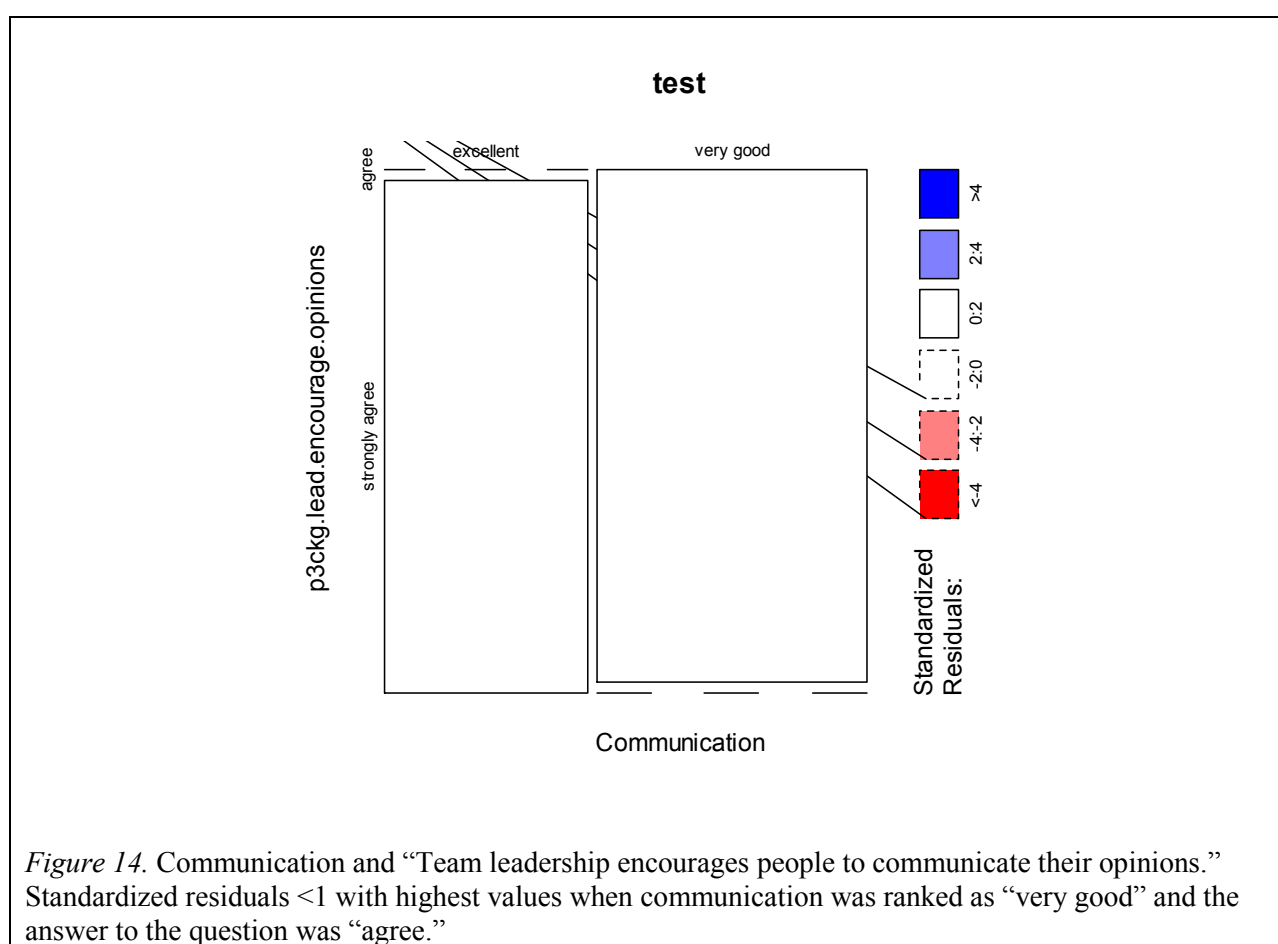
Cohesion was “excellent” and the answer to the question was “strongly agree.” There are also positive standardized residuals when Cohesion was “very good” and the answers to the question were “agree” (+0.67) and “I don’t know” (+0.34) consecutively. As team members strongly agree to the fact that leadership values their contributions, the cohesion within the team tends to improve.



2. Communication and “Team leadership encourages people to communicate their opinions.”

From the cross tabulation between the variables Communication and the answers to the question about whether leadership encourages members’ opinions, I obtained a p-value = 0.028,

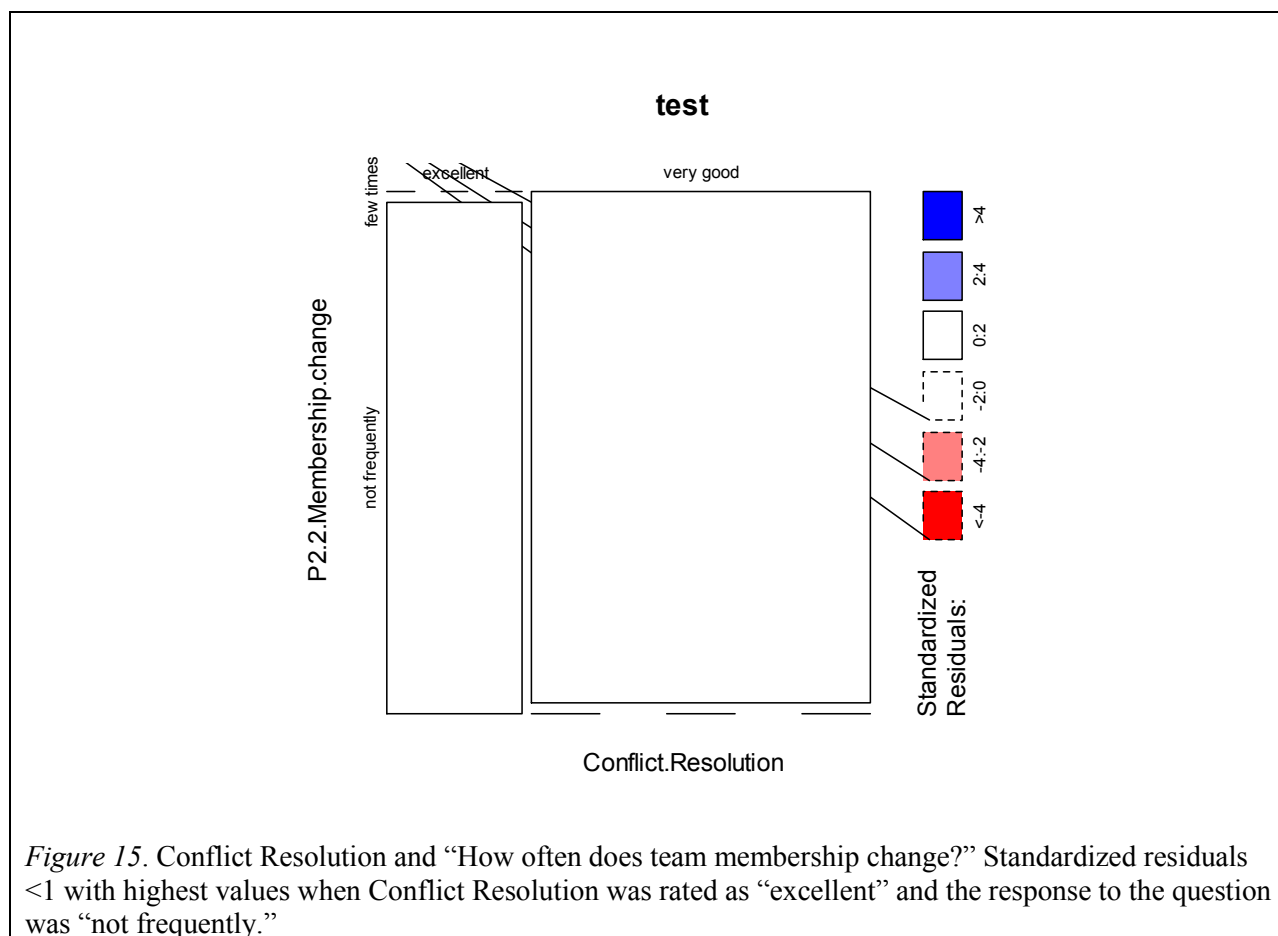
and the positive standardized residuals were < 2 (Fig. 15). The residuals yielded the highest value of $+1.75$ when Communication was ranked as “very good” and the answer to the question was “agree.” There were also positive standardized residuals ($+1.50$) when Communication was ranked as “excellent” and the answer to the question was “strongly agree.” As leadership encourages people to voice their opinions, communication within the group improves. In other words, leadership’s encouragement to team members to communicate their opinions helps improve communication within the group.



3. Conflict Resolution and “How often does team membership change?”

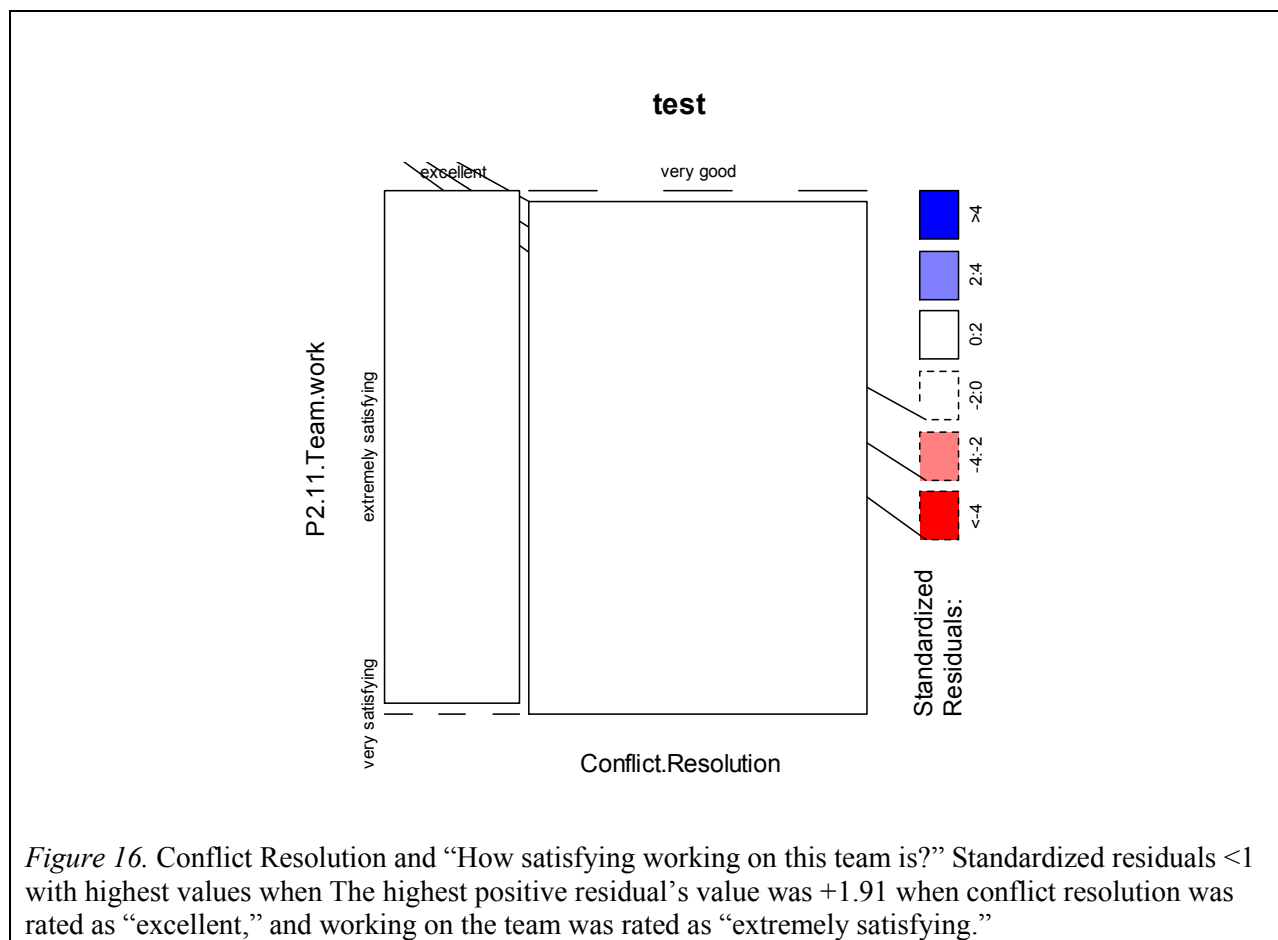
The contingency table involving Conflict Resolution and the answers to the question about how team membership changes along time yielded a p-value = 0.047, and the positive

standardized residuals yielded values < 2 (Fig. 16). The mosaic plot presents the highest standardized residuals (+1.91) when Conflict Resolution was rated as “excellent” and the response to the question was “not frequently,” which was expected. I also found positive residuals (+1.89) when Conflict Resolution was “very good” and the answer to the question was “few times.” Therefore, as team membership stays unchanged or experiences little change, conflict resolution tends to improve within the group.



After performing a contingency table procedure involving Conflict Resolution and the answers to the question involving how satisfying is working for the team, I obtained a p-value = 0.047, and positive standardized residuals < 2 (Fig. 17). The highest positive residual’s value was +1.91 when Conflict Resolution was rated as “excellent,” and working on the team was

rated as “extremely satisfying.” Also, I found positive residuals (+0.76) when Conflict Resolution was “very good” and the answer to the question was “very satisfying.” This finding suggests that as members think that working for the team is increasingly satisfying, conflict resolution tends to improve.



4. Conflict Resolution and “Team leadership manages change efficiently.”

From the cross tabulation between the variables Conflict Resolution and the answers to the question about whether leadership manages change efficiently, I obtained a p-value = 0.047, and positive standardized residuals < 2 (Fig. 18). The positive residuals yielded the highest value when Conflict Resolution was “excellent” and the answers to the question were “strongly agree” (+1.31) and “I don’t know” (+1.31) respectively. I also found positive standardized residuals

(+0.75) when Conflict Resolution was “very good” and the answer to the question was “agree.”

This implies that as leadership manages change efficiently, team members’ responses indicated that conflict resolution tends to improve. However, some people chose to respond “I don’t know” to the question while they indicated that Conflict Resolution was “excellent.”

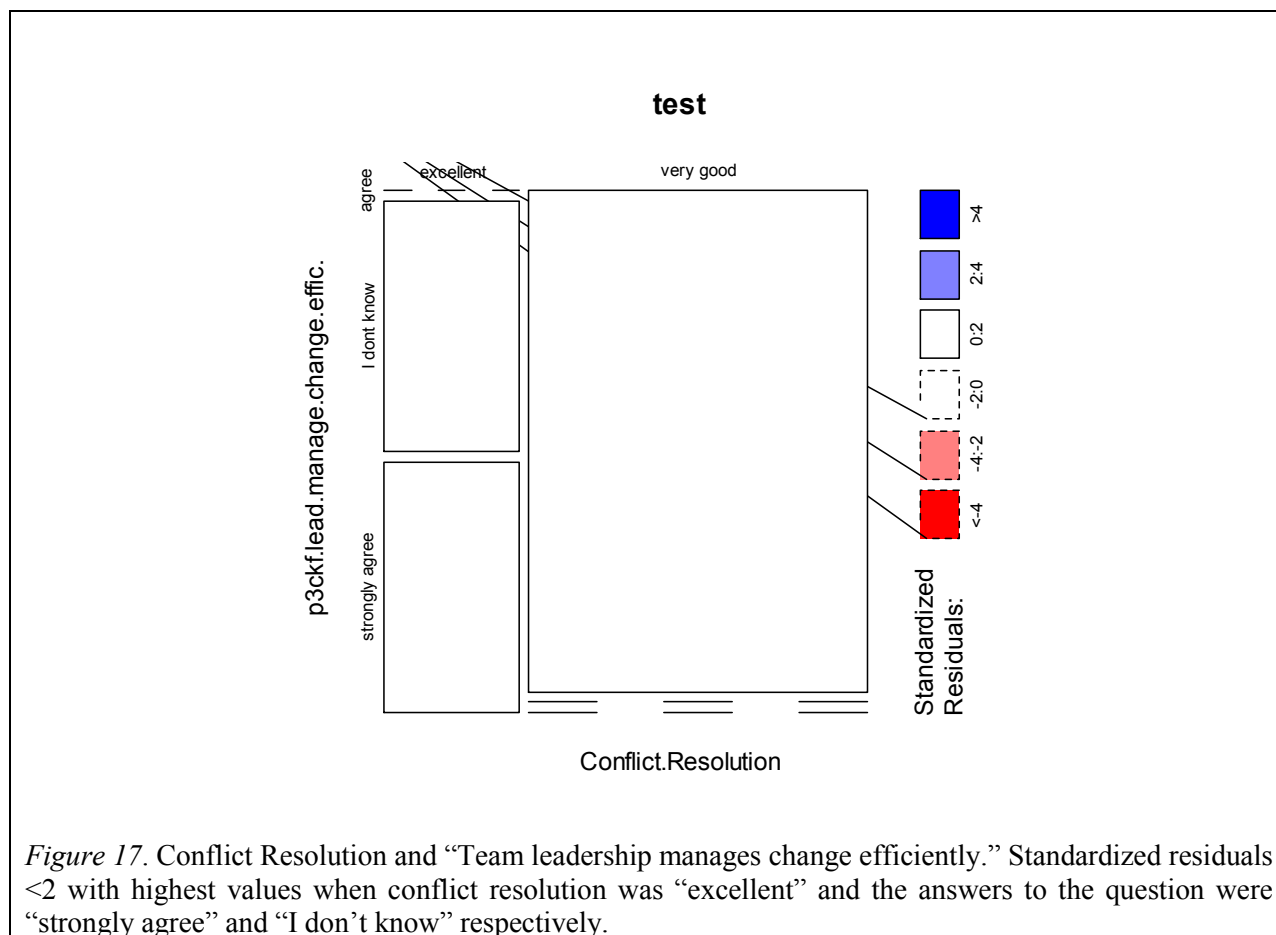
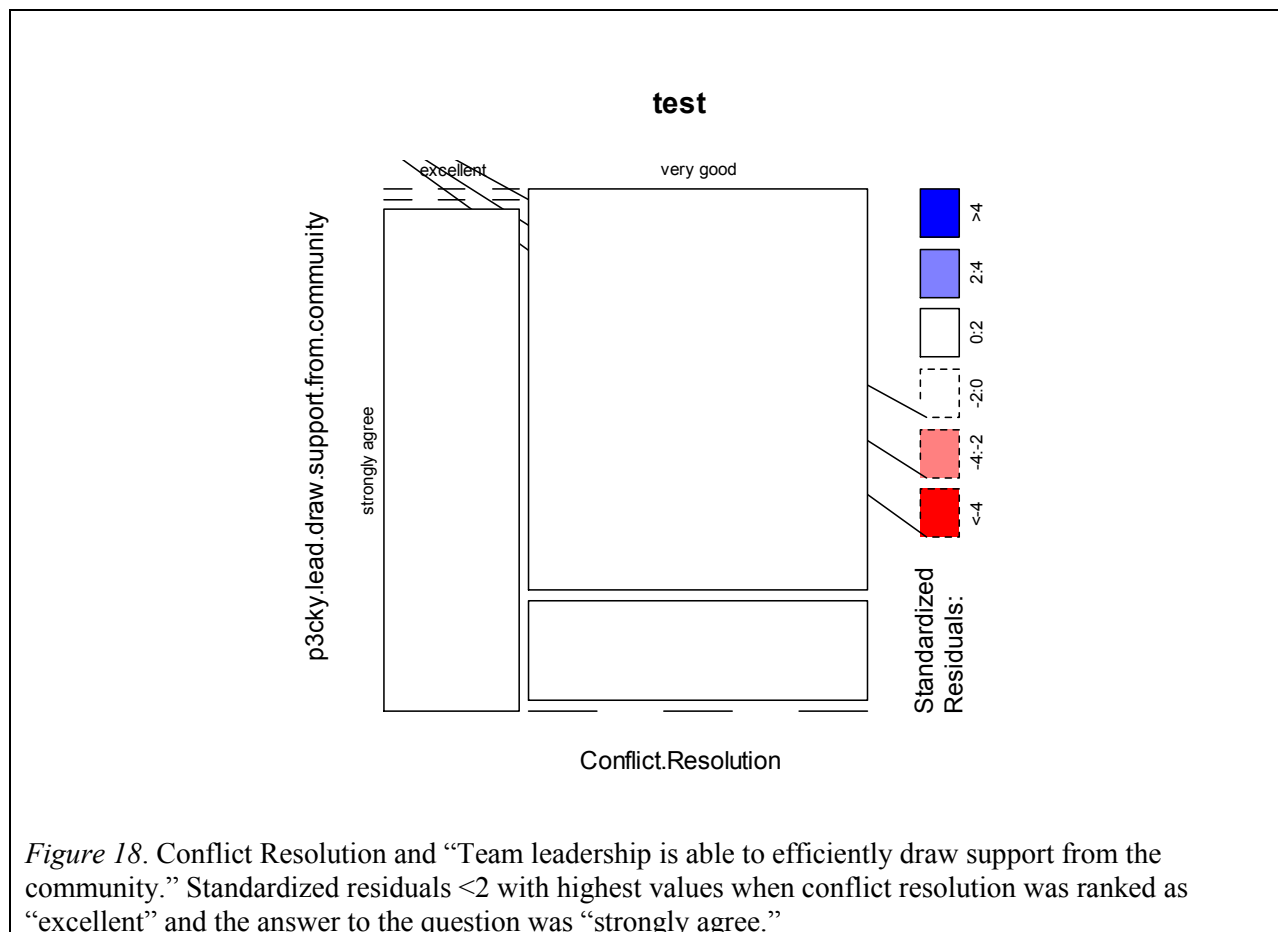


Figure 17. Conflict Resolution and “Team leadership manages change efficiently.” Standardized residuals <2 with highest values when conflict resolution was “excellent” and the answers to the question were “strongly agree” and “I don’t know” respectively.

5. Conflict Resolution and “Team leadership is able to efficiently draw support from the community.”

The association between the variables Conflict Resolution and the answers to the question about whether leadership is able to draw support from the community yielded a p-value = 0.047. The positive standardized residuals presented values < 2 (Fig. 19). The highest residual value (+1.91) was found when Conflict Resolution was ranked as “excellent” and the answer to

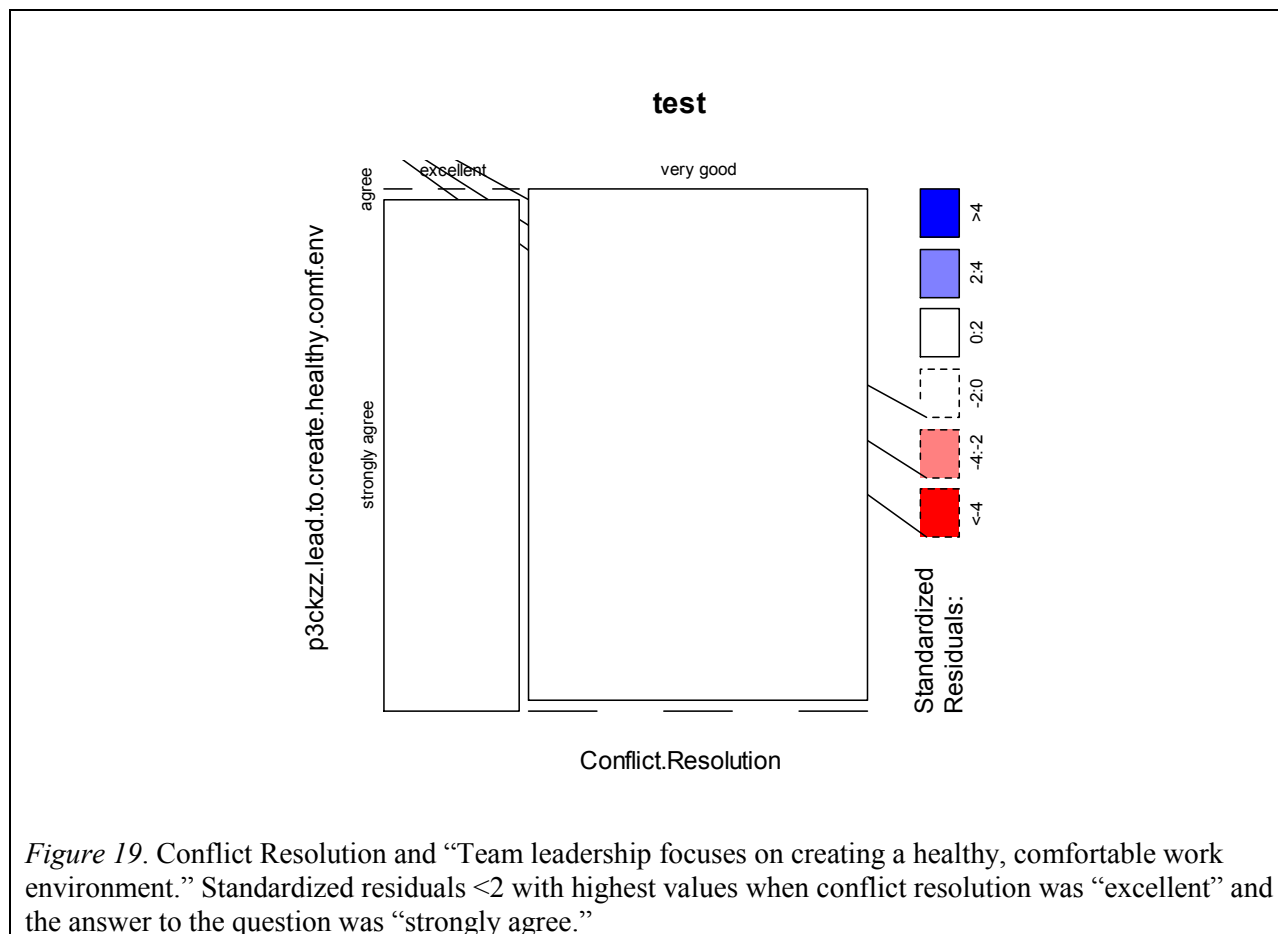
the question was ranked as “strongly agree.” There were also positive residuals (+0.67) when Conflict Resolution was rated as “very good” and the answer to the inquiry was “agree.” In other words, this finding is consistent with the conclusion that when team members consider that team leadership is able to efficiently draw support from the community, conflict resolution tends to improve.



6. Conflict Resolution and “Team leadership focuses on creating a healthy, comfortable work environment.”

By associating the data about Conflict Resolution and the answers to the question about whether leadership focuses on creating a healthy, comfortable environment, I obtained a p-value = 0.047, and the process yielded positive standardized residuals < 2 (Fig. 20). The highest

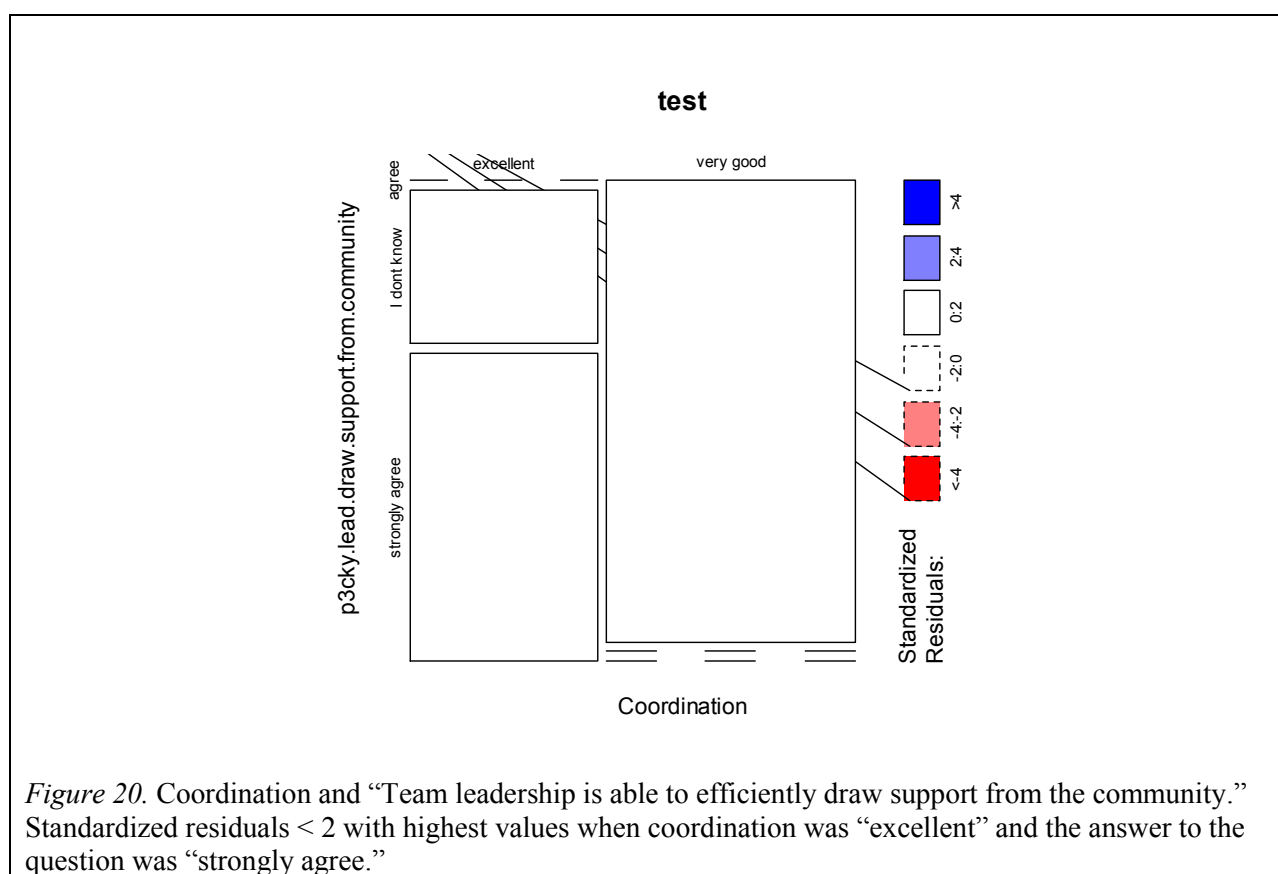
positive residuals value (+1.91) occurred when Conflict Resolution was “excellent” and the answer to the question was “strongly agree.” There were also positive residuals (+0.76) when Conflict Resolution was “very good” and the answer to the question was “agree.” This indicates that as team members find that their leadership creates a strong and comfortable environment, conflict resolution tends to improve.



7. Coordination and “Team leadership is able to efficiently draw support from the community.”

The contingency table involving Coordination and the answers to the question about how team leadership is able to draw support from the community, yielded a p-value = 0.028, and positive standardized residuals < 2 (Fig. 21). The highest positive residuals value (+1.23)

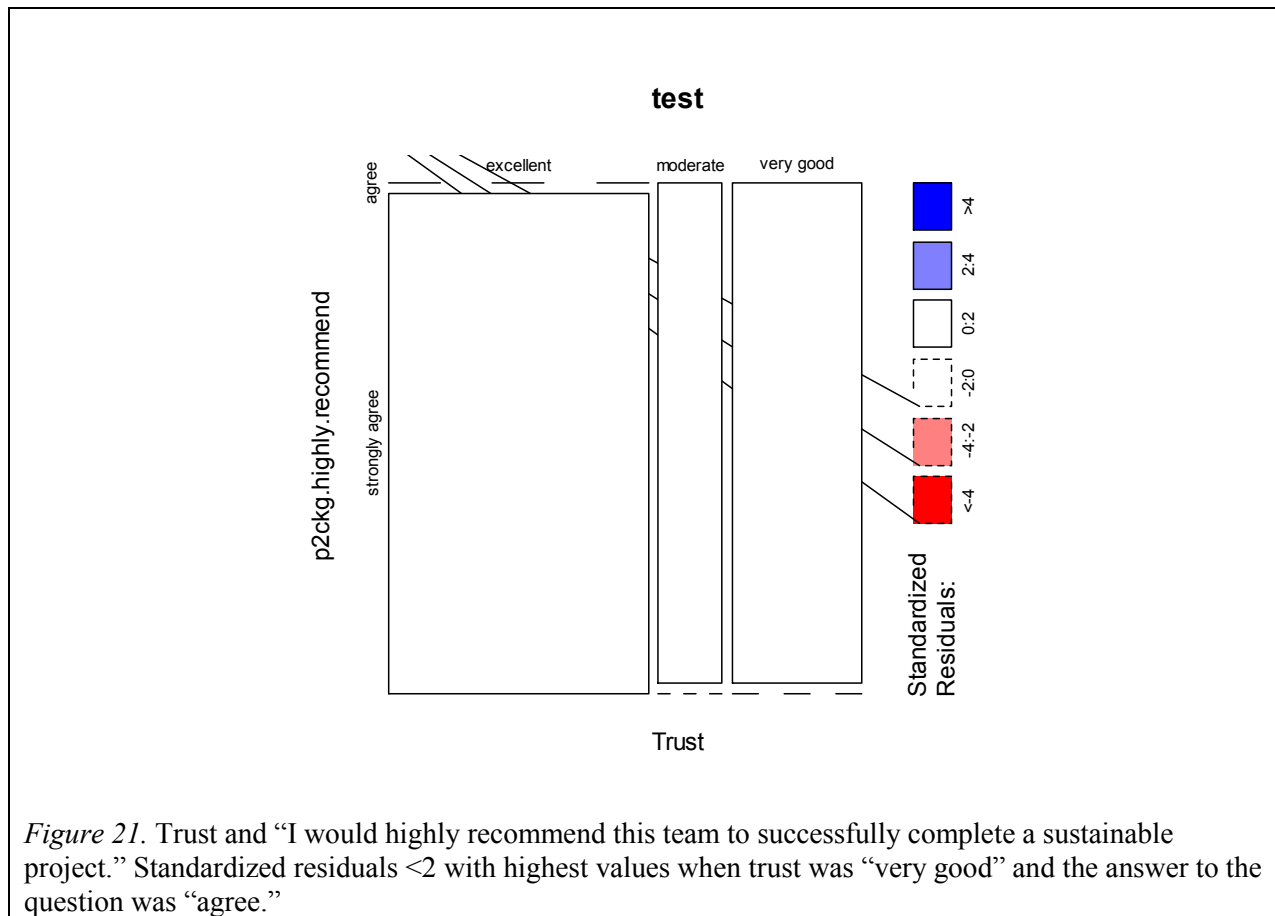
occurred when Coordination was “excellent” and the answer to the question was “strongly agree.” There were also positive standardized residuals when Coordination was “very good” and the answer to the question was “agree” (+1.13), and when Coordination was “excellent” and the answer to the question was “I don’t know” (+0.86). When people strongly agreed to the fact that team leadership was able to efficiently draw support from the community, coordination improved. The “I don’t know” answers may reflect people’s lack of knowledge about whether leadership was able to draw support from the community, or simply declined to respond.



8. *Trust and “I would highly recommend this team to successfully complete a sustainable project.”*

The contingency table involving Trust and the answers to the question about whether each member would recommend this team yielded a p-value = 0.028, and positive standardized

residuals < 2 (Fig. 22). The highest positive residuals value (+1.23) was obtained when Trust was “very good” and the answer to the question was “agree.” There were also positive standardized residuals when Trust was “excellent” and the answer to the question was “strongly agree” (+1.13), and when Trust was “moderate” and the response to the question was “agree” (0.86). These data are consistent with the finding that when trust is higher, team members tend to recommend their team for successfully completing a similar type of project. This may indicate that when team members are comfortable and trust others, they are more likely to recommend the team for future interactions with others working on similar types of projects.



9. Trust and “Team members are motivated to have the team succeed.”

The contingency table procedure involving Trust and the answers to the question about whether each member feels motivated to have the team succeed, generated a p-value = 0.028, while the positive standardized residuals presented values < 2 (Fig. 23). The highest residual levels (+1.23) occurred when Trust was “very good” and the answer to the question was “agree.” There were also positive standardized residuals when Trust was “excellent” and the answer to the question was “strongly agree” (+1.13) and when Trust was “moderate” and the answer to the question was “agree” (+0.86). This is consistent with the statement that as levels of trust improve, team members are more motivated to have their team succeed.

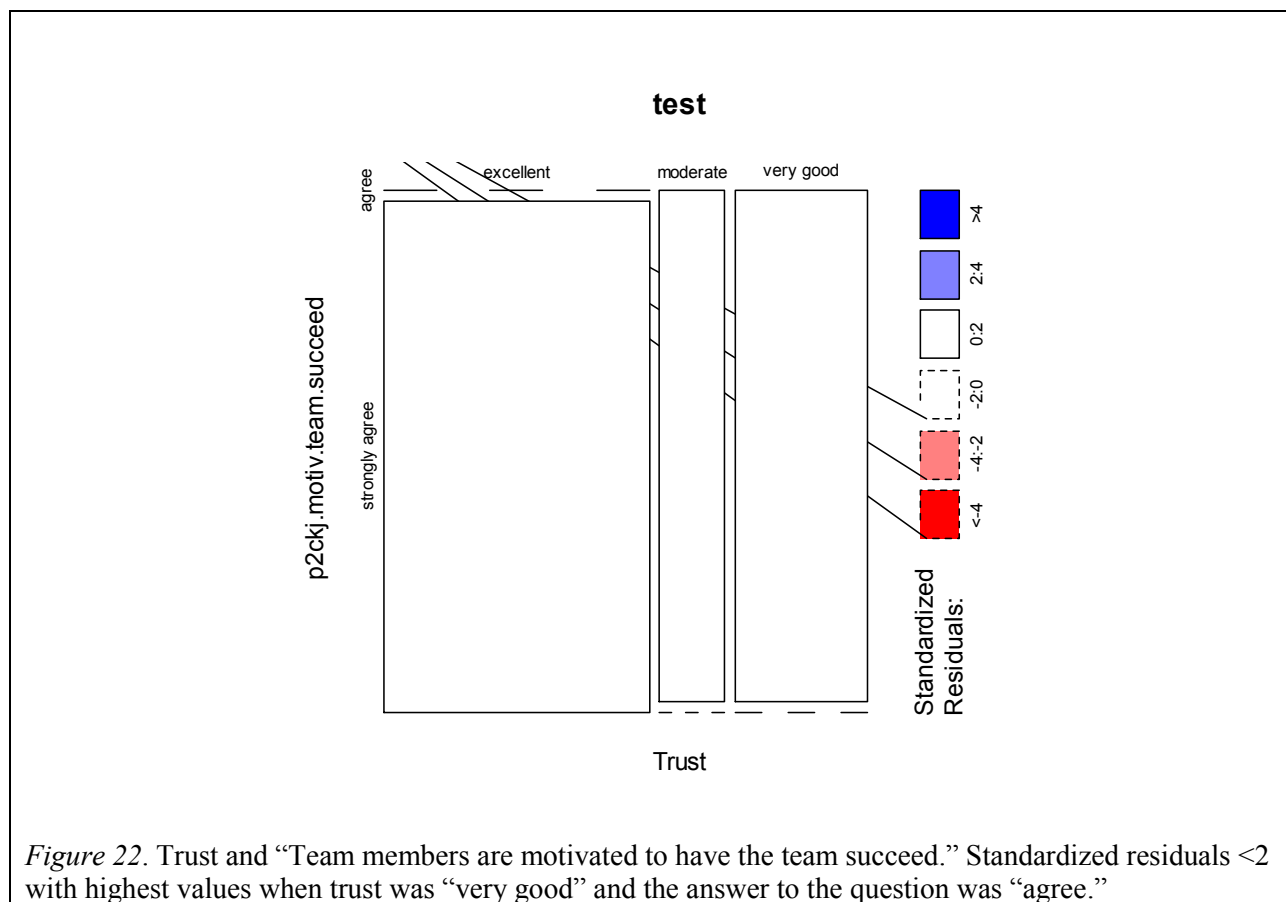


Figure 22. Trust and “Team members are motivated to have the team succeed.” Standardized residuals < 2 with highest values when trust was “very good” and the answer to the question was “agree.”

6. Data from survey (Second iteration): Interpersonal processes only

This section presents the results of the second survey iteration using pairs of Interpersonal Processes only (Table 8). This survey was conducted by the end of the ONGOING Case Study data collection process. I repeated the procedures followed to process the data from the first survey iteration, and selected the interactions that yielded p-values < 0.05 .

Table 8

*ONGOING Case. Two Way Contingency Tables: Interpersonal Processes Only
Second Survey Iteration ($n = 7$)*

Interpersonal Process 1	Interpersonal Process 2	p-value
Cohesion	Cooperation	0.028
Cohesion	Coordination	0.028
Trust	Collaboration	0.047
Cooperation	Coordination	0.028

Note: Fisher's Exact Test

1. Cohesion and Cooperation.

The cross tabulation involving Cohesion and Cooperation yielded a p-value = 0.028, and positive standardized values < 2 (Fig. 24). The positive residuals presented maximum values (+1.13) when Cohesion and Cooperation were both ranked as "very good." Positive residuals were also found (+0.98) when both Cohesion and Cooperation were ranked as "excellent." This result is consistent with the statement: as cohesion improves, cooperation within the group improves as well.

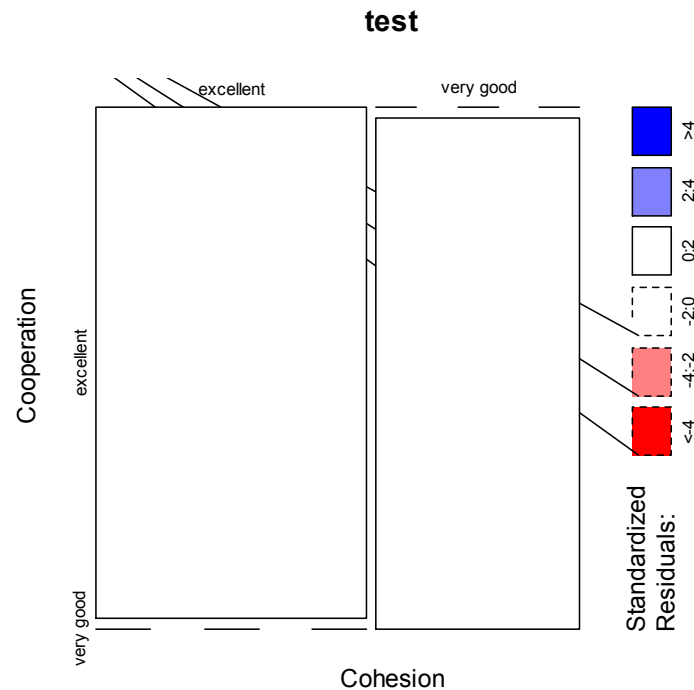


Figure 23. Cohesion and Cooperation. Standardized residuals < 1 with highest values). The positive residuals presented maximum values (+1.13) when Cohesion and Cooperation were both ranked as “very good.”

2. Cohesion and Coordination.

The results of this interaction are similar to the previous one (Cohesion and Cooperation). The contingency tables involving data from Cohesion and Coordination generated a p-value = 0.028, and positive standardized residuals < 2 (Fig. 25). The highest residual values (+1.51) were found when both Cohesion and Coordination were ranked as “very good.” Also, I found positive residuals (+1.13) when both variables were ranked as “excellent.” This is consistent with the conclusion that when coordination improves, the team cohesion also tends to improve.

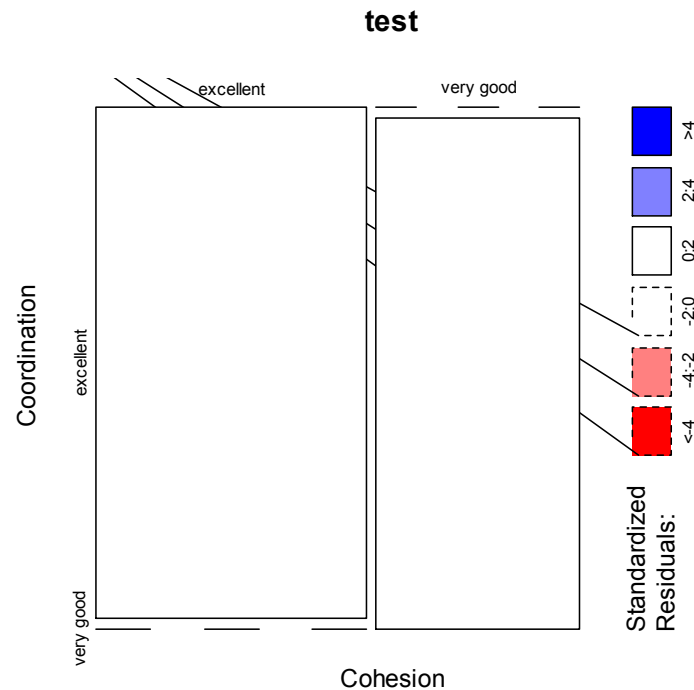


Figure 24. Cohesion and Coordination. Standardized residuals <2 with highest values when both cohesion and coordination were ranked as “very good.”

3. Trust and Collaboration.

The contingency table procedure associating Trust and Collaboration yielded a p-value = 0.047, and the positive standardized residuals presented values < 2 (Fig. 26). The highest positive residual values (+1.31) occurred in two cases: when Collaboration was ranked as “very good,” and also when Trust was ranked as “very good” and “moderate” successively. There were also positive residuals when both Trust and Collaboration were “excellent” (+0.76). It therefore appears that as trust improves within the group, collaboration tends to improve as well.

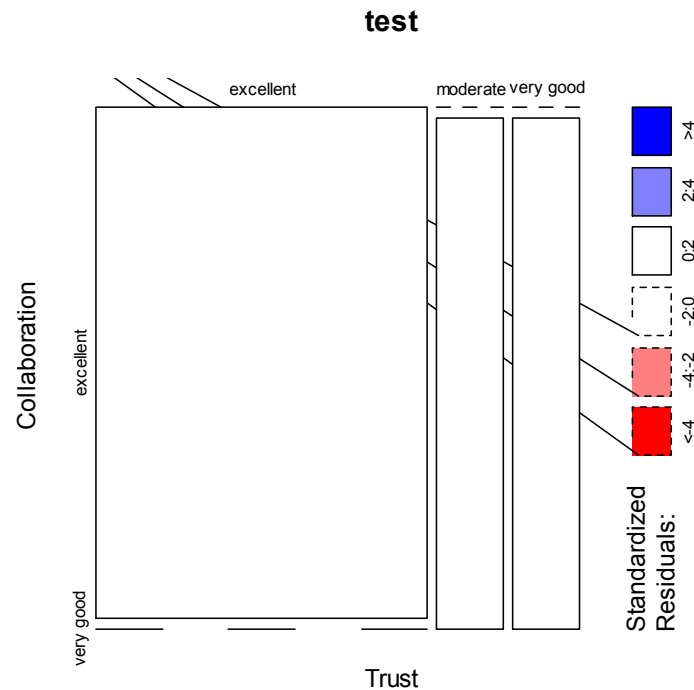
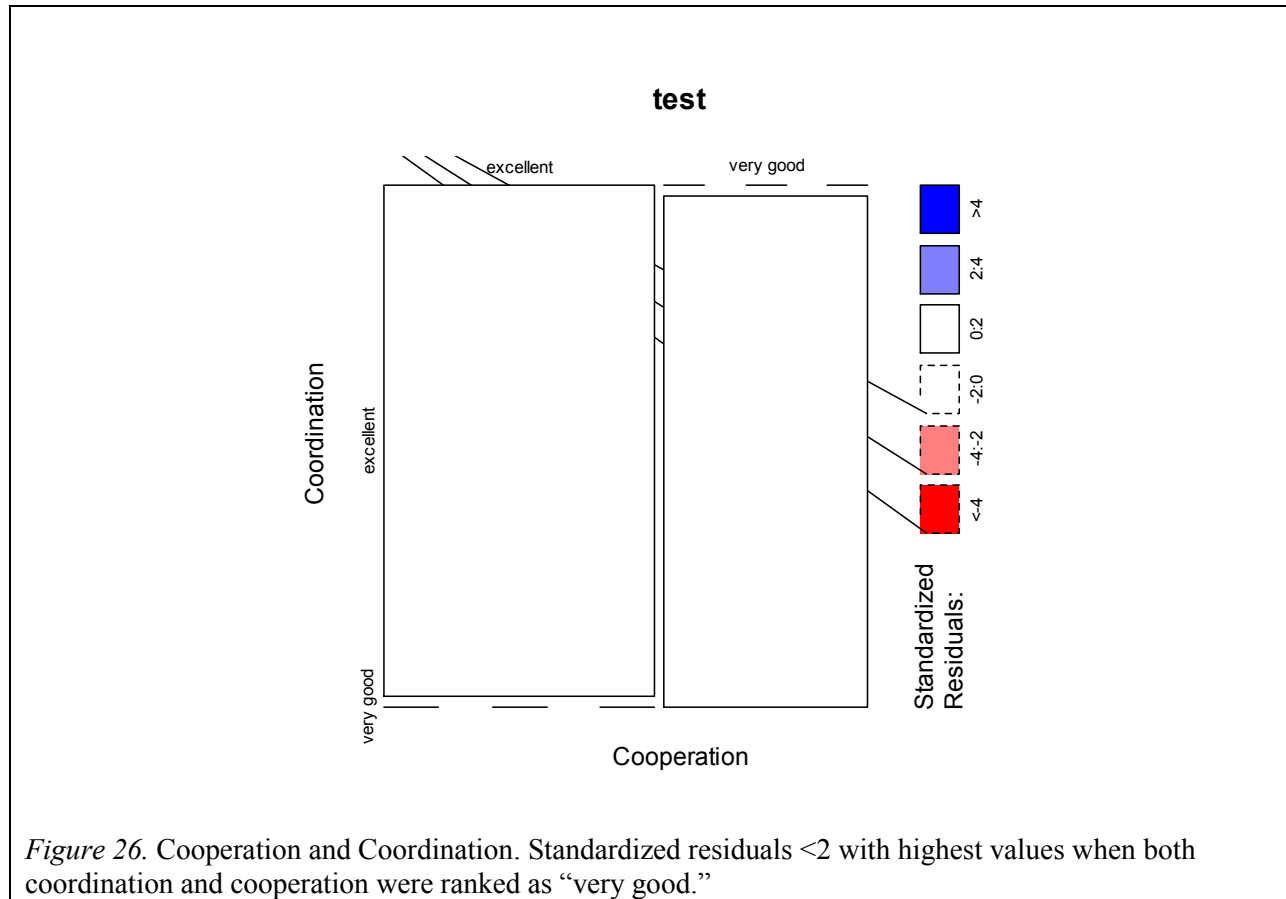


Figure 25. Trust and Collaboration. Standardized residuals < 2 with highest values in two cases: when collaboration was ranked as “very good,” and also when trust was ranked as “very good” and “moderate” successively.

4. Coordination and Cooperation.

The results of the cross tabulation between data from Coordination and Cooperation yielded a p-value = 0.028, and the positive standardized values were < 2 (Fig. 27). The positive residuals presented the highest values (+1.51) when both Coordination and Cooperation were ranked as “very good.” Also, there were positive standardized residuals when both variables were ranked as “excellent” (+1.13). This implies that as cooperation improves within the group, coordination also tends to improve.



7. Data from survey (Second iteration): Interpersonal processes and other survey answers

As in the previous set of data, I processed contingency tables involving each of the Interpersonal Processes and each of the answers to the rest of the survey questions. The interactions that yielded p-values < 0.05 appear in Table 9.

Table 9

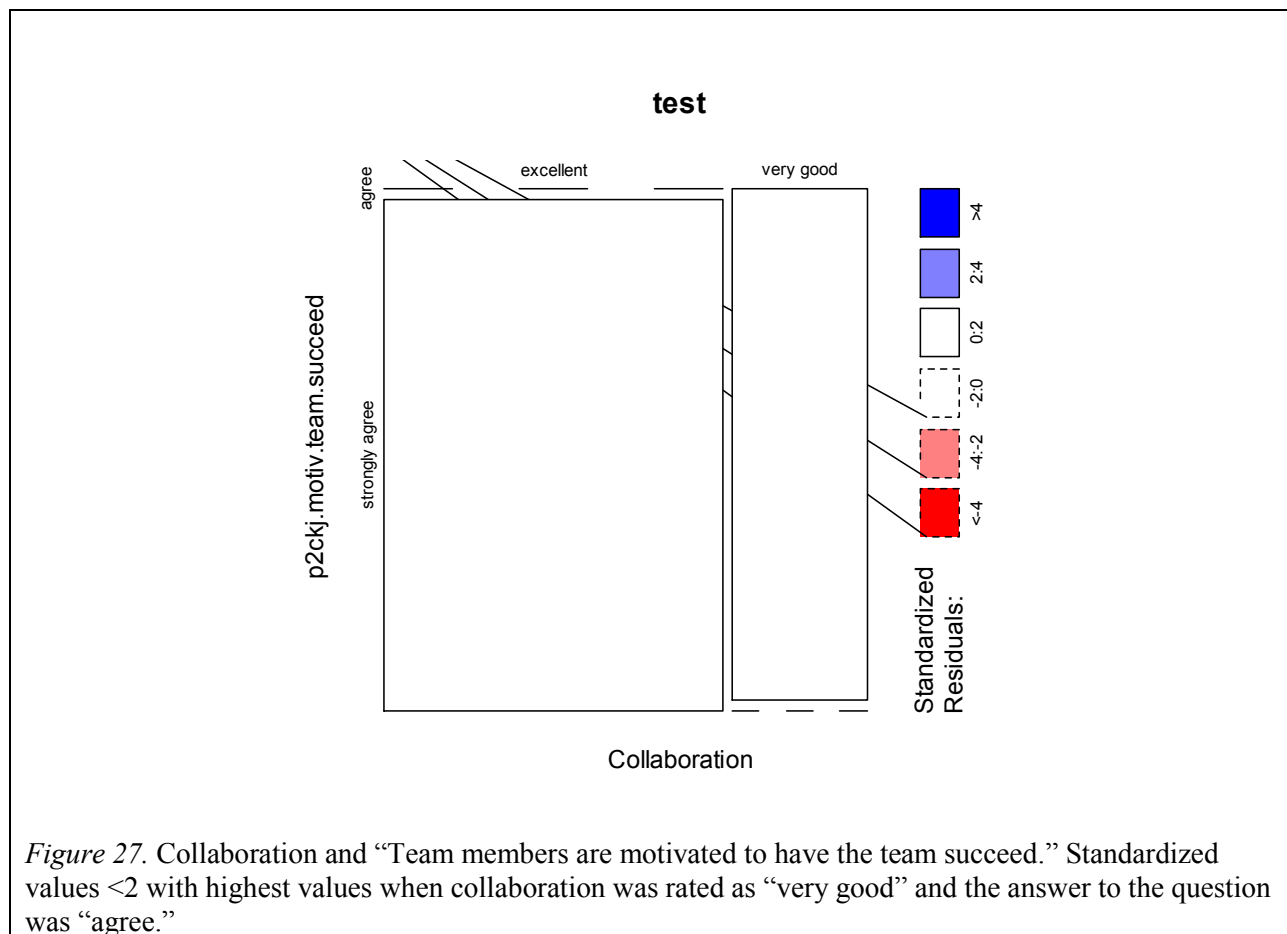
ONGOING Case. Two Way Contingency Tables: All Survey Data. Second Survey Iteration (n = 7)

Interpersonal Process	Survey Question	p-value
Collaboration	<i>Team members were motivated to have the team succeed</i>	0.047
Collaboration	<i>Team members implement innovative ways to perform tasks successfully</i>	0.047
Collaboration	<i>There is room for improvement in team work</i>	0.047
Collaboration	<i>Team leadership provides authority for members to make decisions</i>	0.047
Conflict Resolution	<i>Team leadership addresses potential issues/conflicts early on in the process</i>	0.047
Conflict Resolution	<i>Team leadership manages change efficiently</i>	0.047
Conflict Resolution	<i>Team leadership helps others develop passion for their project work</i>	0.047
Conflict Resolution	<i>Team leadership helps the team clarify the project's objectives</i>	0.047
Conflict Resolution	<i>Team leadership gives feedback in a timely and equitable manner</i>	0.047
Trust	<i>Team members are motivated to have the team succeed</i>	0.047
Trust	<i>Team members implement innovative ways to perform tasks successfully</i>	0.047
Trust	<i>There was room for improvement in team work</i>	0.047
Trust	<i>Team leadership provides authority for members to make decisions</i>	0.047

Notes: Fisher's Exact Test

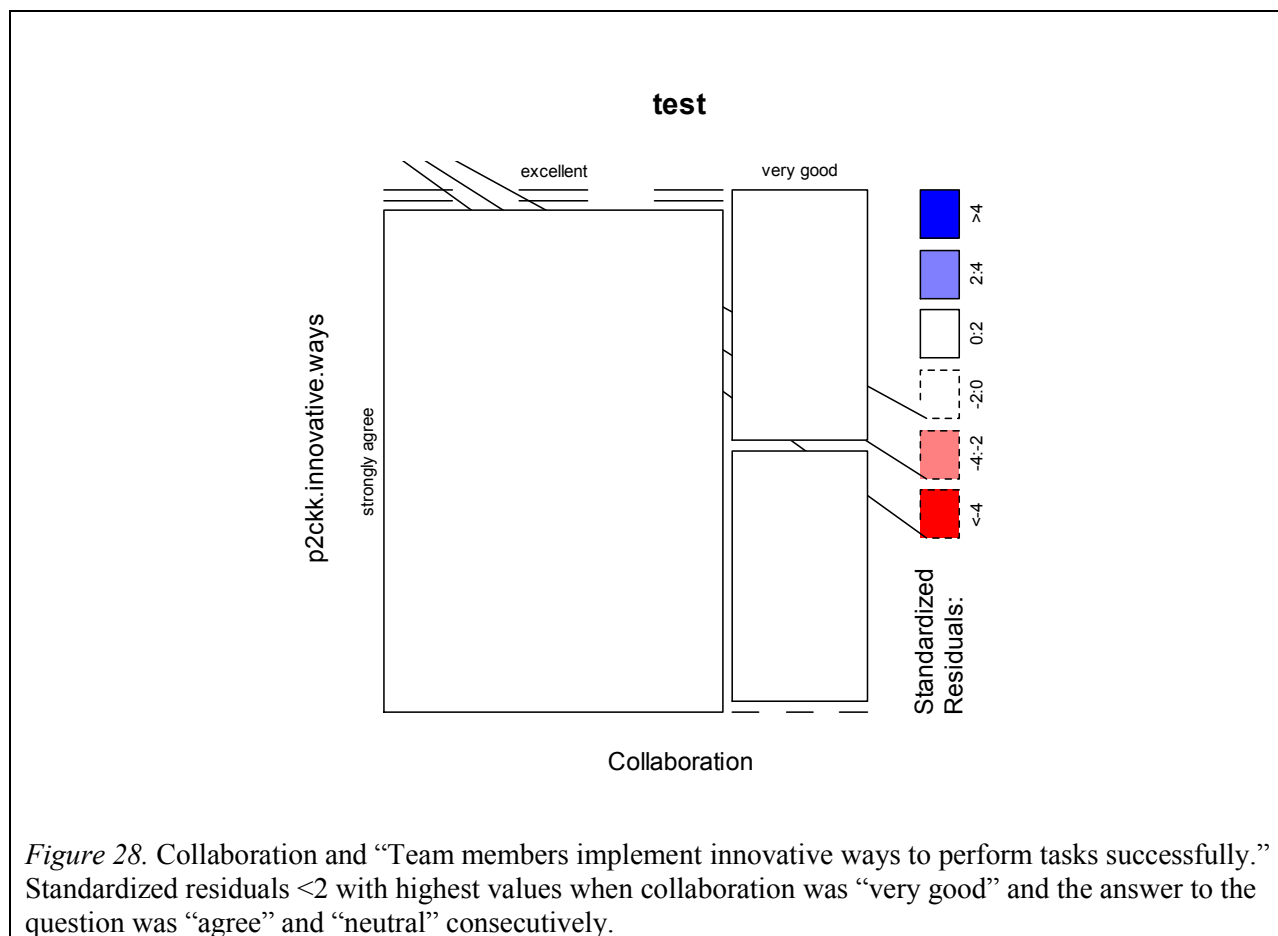
1. Collaboration and “Team members were motivated to have the team succeed.”

The contingency table involving the association between Collaboration and the question about whether team members are motivated to have the team succeed, yielded a p-value = 0.047. The positive standardized residuals had values < 2 (Fig. 28), and the highest values (+1.91) occurred when Collaboration was rated as “very good” and the answer to the question was “agree.” There were also positive residuals when Collaboration was “excellent” and the answer to the question was “strongly agree” (+0.75). Based on the data, it appears that as collaboration improves within the team, people feel more motivated to see their team succeed.



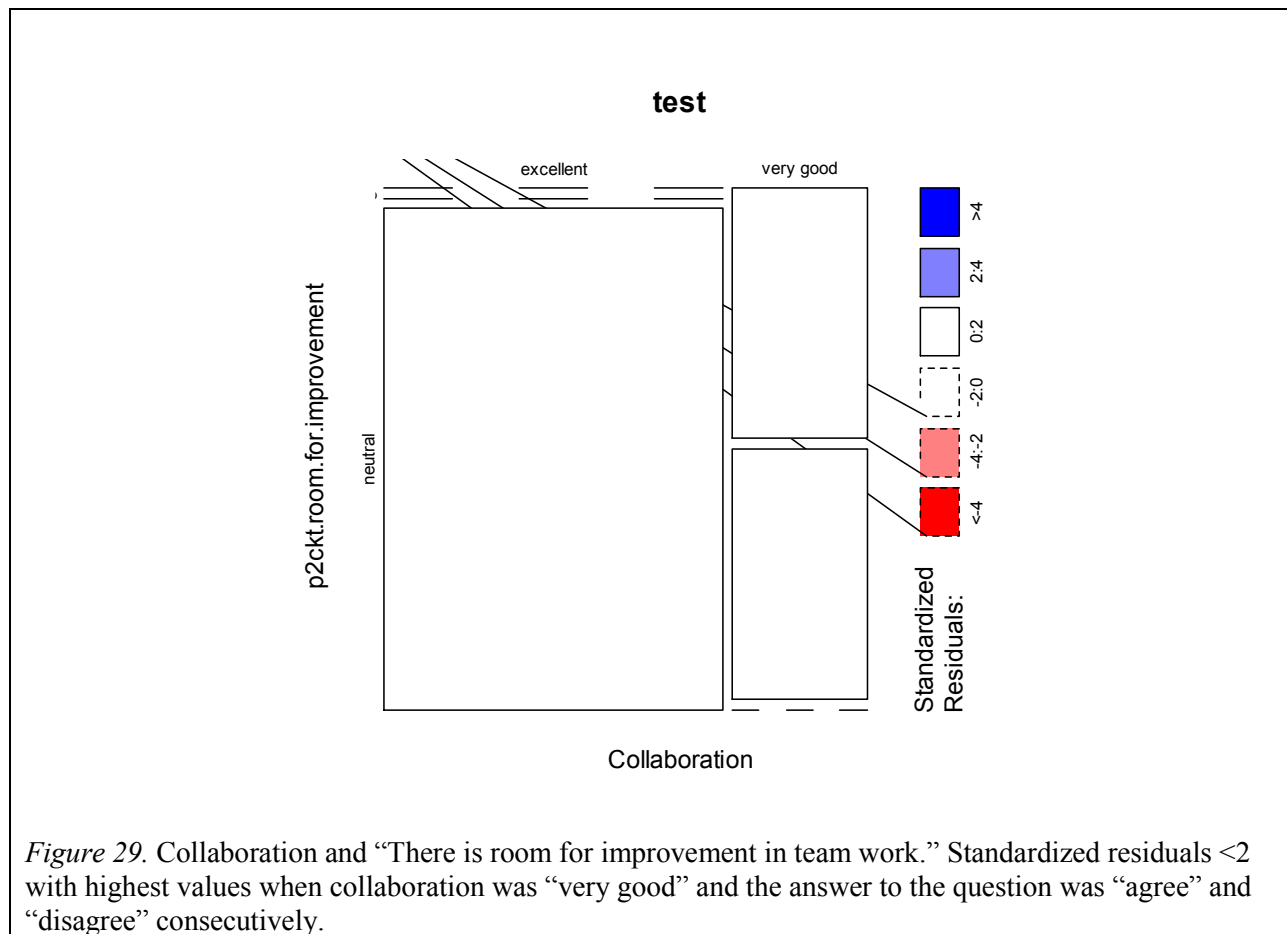
2. Collaboration and “Team members implement innovative ways to perform tasks successfully.”

From the cross tabulation between Collaboration and the question about whether the team implements innovative ways to perform the team tasks, I obtained a p-value = 0.047, and the positive standardized residuals yielded values < 2 (Fig. 29). The positive residuals yielded maximum values (+1.31) when Collaboration was “very good” and the answer to the question was “agree” and “neutral” consecutively. Positive residuals also existed when Collaboration was “excellent” and the answer to the question was “strongly agree” (+0.76). This data is consistent with the observation that as collaboration develops and improves, the team feels inspired to implement innovative ways to do their team work.



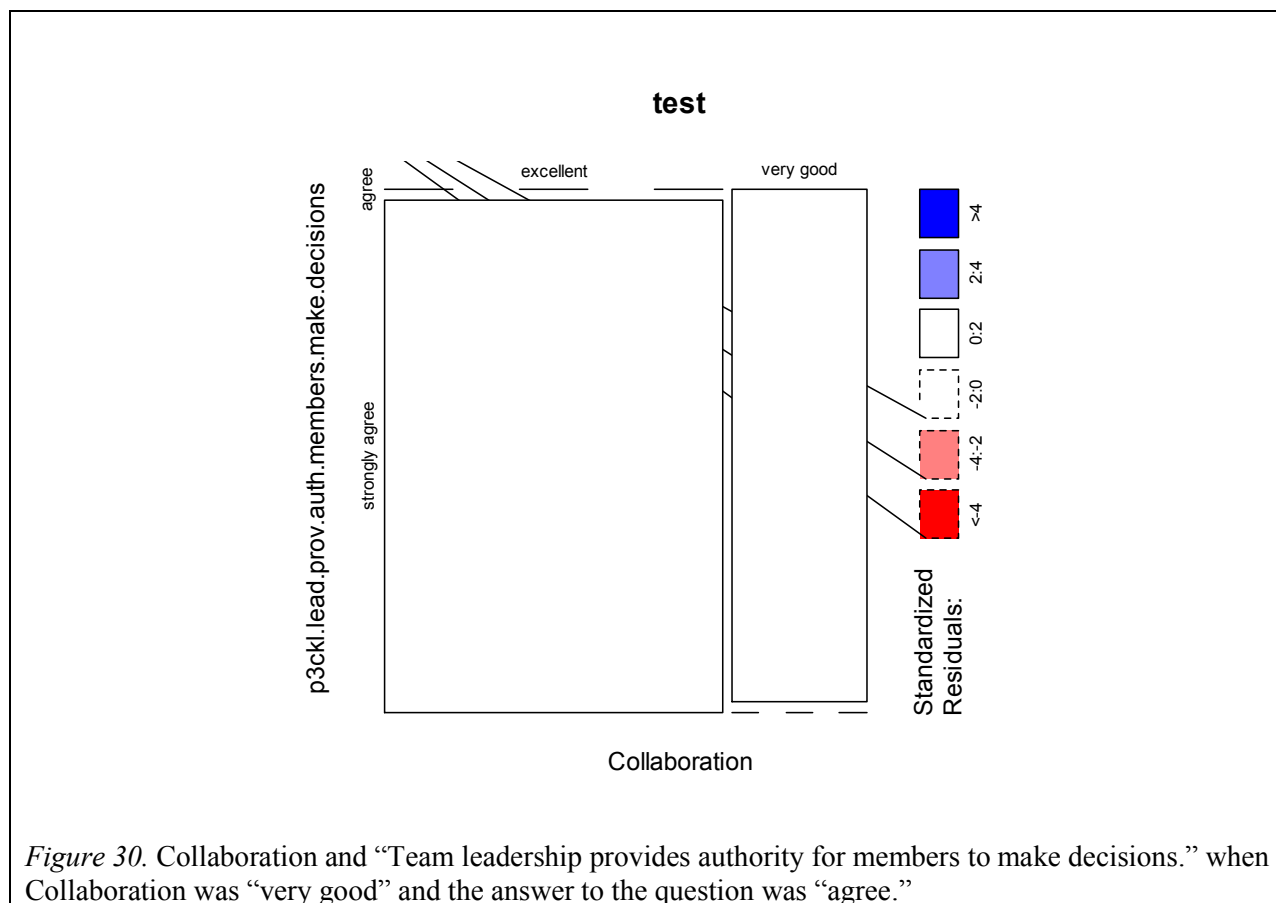
3. Collaboration and “There is room for improvement in team work.”

After performing the contingency table procedure involving Collaboration and the answers to the question about whether there is room for improvement in team work, I obtained a $p\text{-value} = 0.047$. The standardized residual values are < 2 (Fig. 30), and they presented the highest values (+1.31) when Collaboration was “very good” and the answer to the question was “agree” and “disagree” consecutively. Also, there are positive residuals when Collaboration was “excellent” and the answer to the question was “strongly agree” (+0.76). It is interesting that when Collaboration was rated as “very good,” responses rated as “agree” and “disagree” are equally significant. This seems to indicate that there is not a clear relationship between room for improvement and collaboration since it can equally relate to agree or disagree.



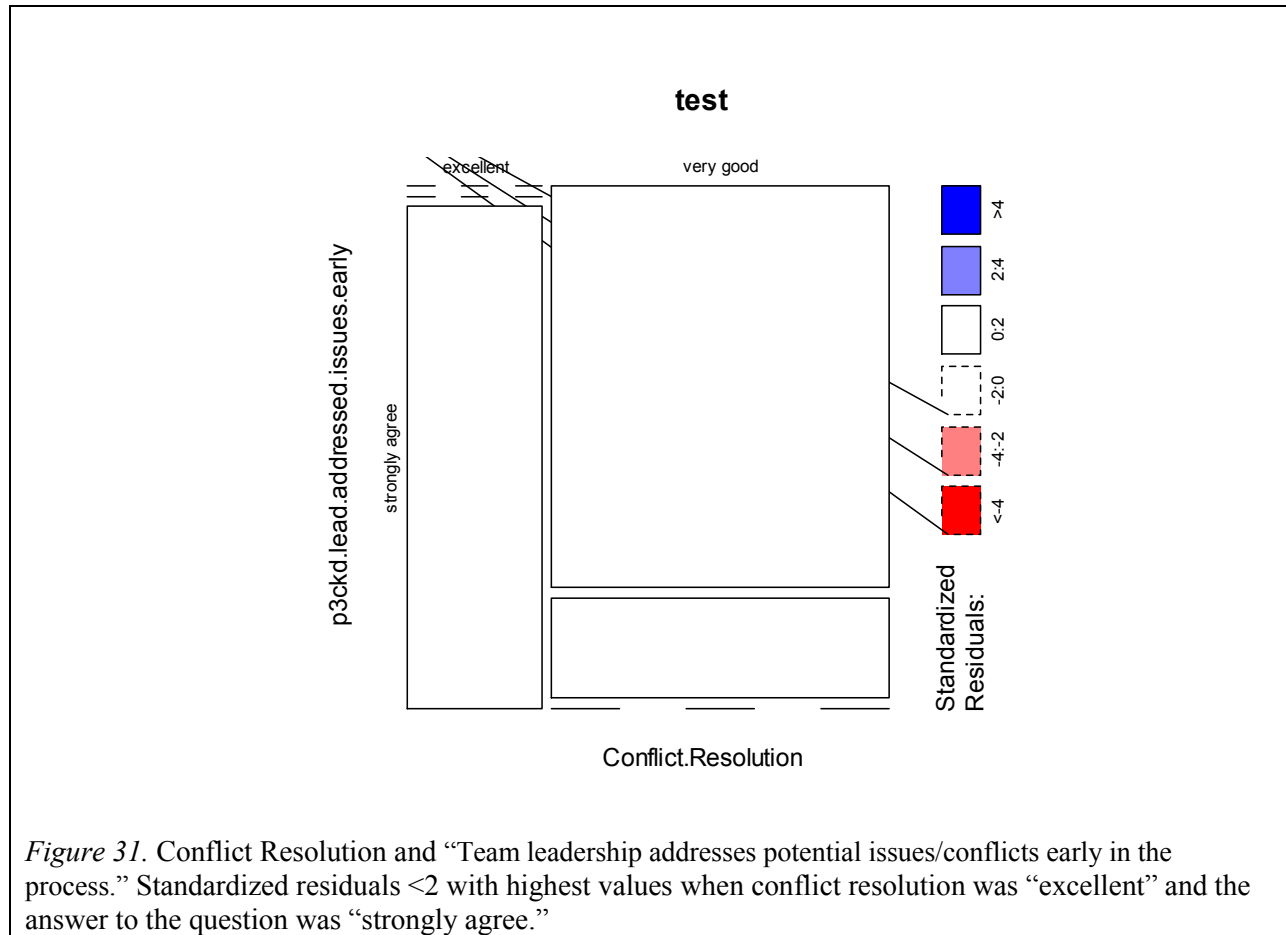
4. Collaboration and “Team leadership provides authority for members to make decisions.”

From the association between Collaboration and the answer to the question about whether team leadership provides team members the authority to make decisions through contingency tables, I obtained a p-value = 0.047, and the positive standardized residuals yielded values < 2 (Fig. 31). The highest positive standardized residual values (+1.91) occurred when Collaboration was “very good” and the answer to the question was “agree.” There were also positive residuals when Collaboration was “excellent” and the answer to the question was “strongly agree” (+0.76). Based on the data, there appears to be a direct relationship between group collaboration and the team leader providing members opportunities to make decisions.



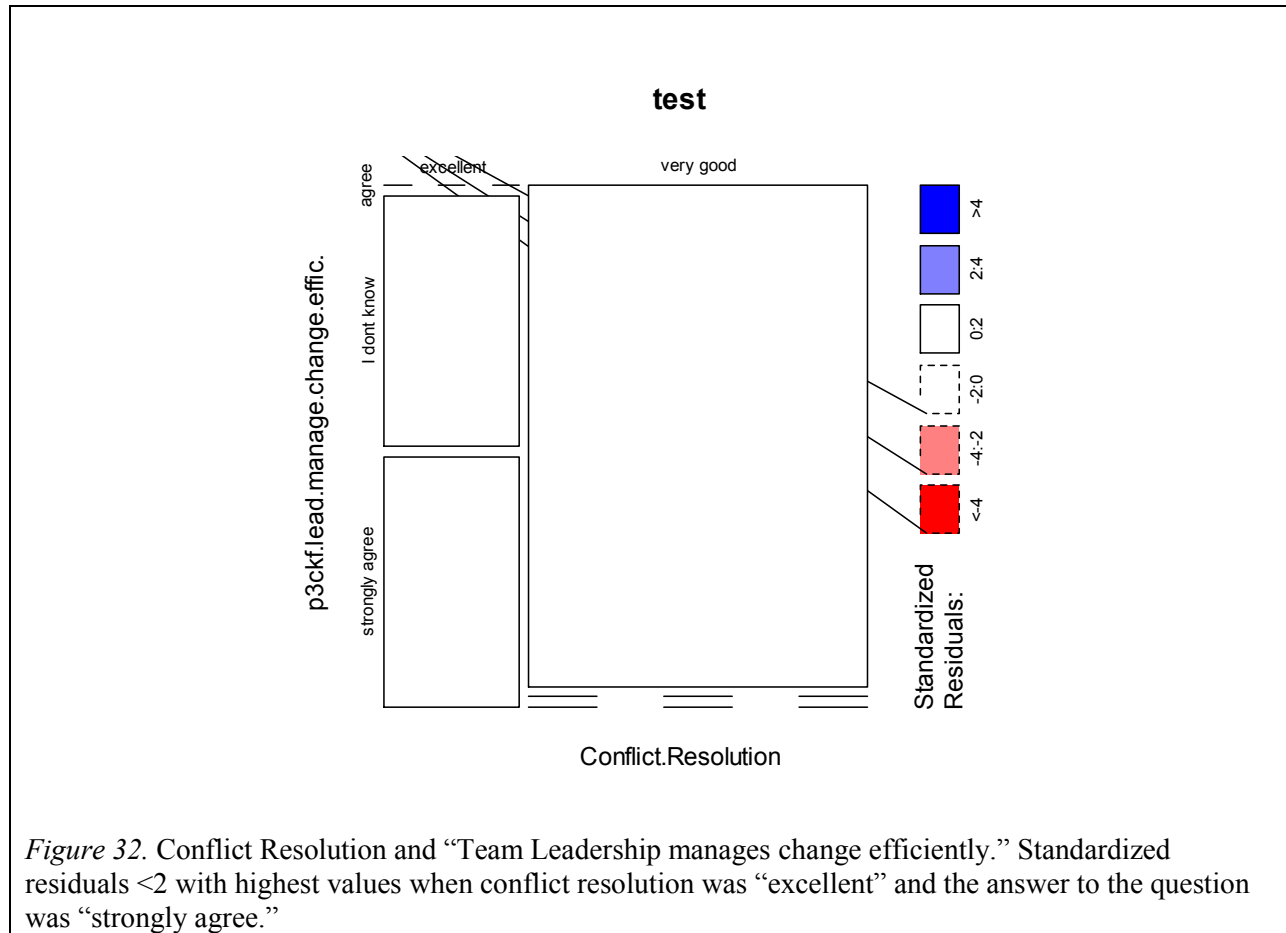
5. *Conflict Resolution and “Team leadership addresses potential issues/conflicts early in the process.”*

From the contingency table associating Conflict Resolution and the answers to the question about whether leadership addresses issues early in the process, I obtained a p-value = 0.047. The positive standardized residual values were < 2 (Fig. 32). These residuals presented the highest values (+1.91) when Conflict Resolution was “excellent” and the answer to the question was “strongly agree.” There were also positive residuals when Conflict Resolution was “very good” and the answer to the question was “agree” (+0.67) and “neutral” (+0.35) consecutively. Based on the data, Conflict Resolution and the fact that leadership addressed conflicts early in the process are strongly related. I posit that if team leadership addresses potential issues or conflicts early in the process, conflict resolution within the team tends to improve.



6. Conflict Resolution and “Team leadership manages change efficiently.”

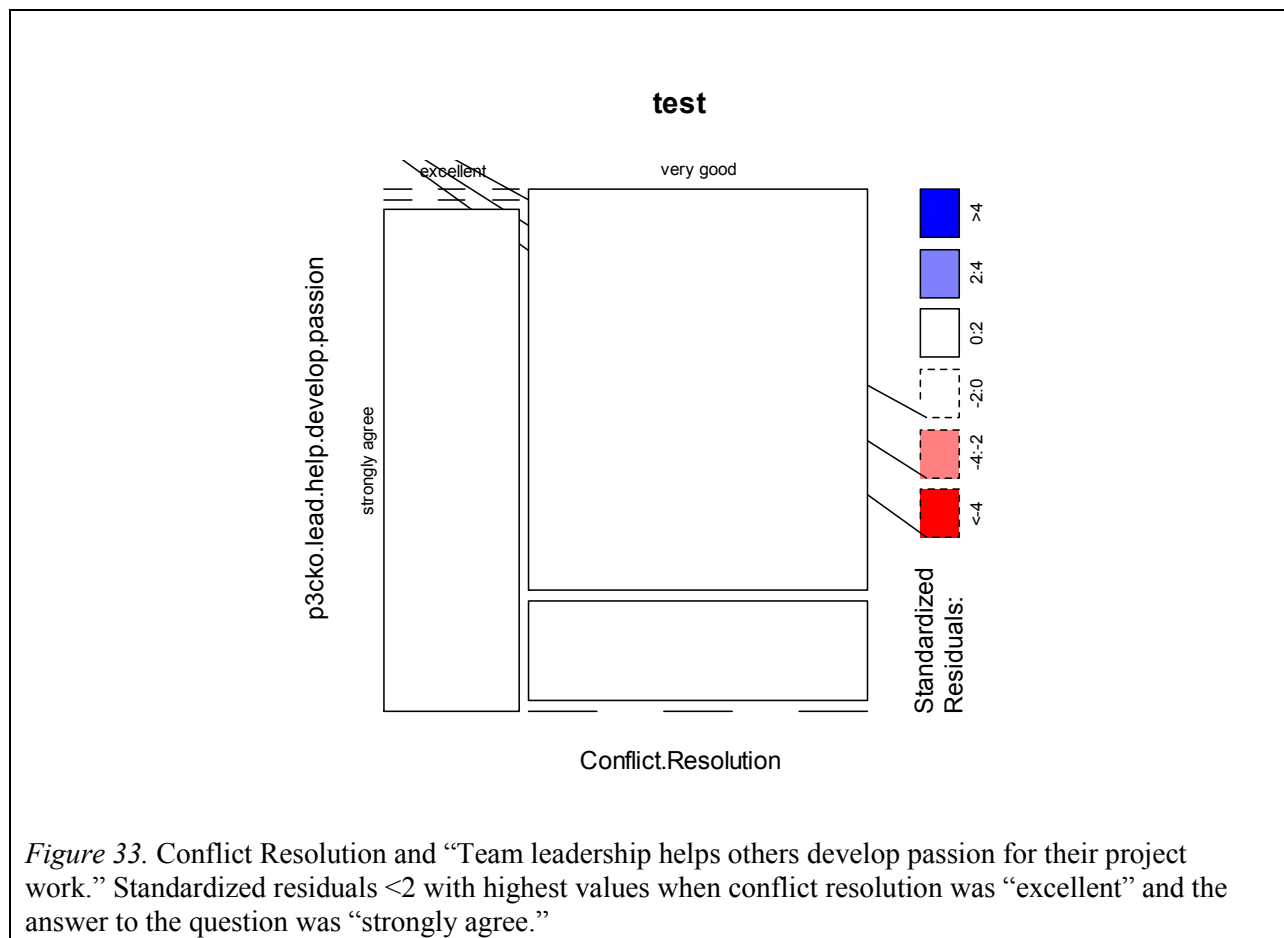
The contingency table associating Conflict Resolution and the answers to the question about whether leadership manages change efficiently, yielded a p -value = 0.047. The positive standardized residuals presented values < 2 (Fig. 33), and the highest values (+1.31) occurred when Conflict Resolution was “excellent” and the answer to the question was “strongly agree.” There were also positive residuals when Conflict Resolution was “very good” and the answer to the question was “agree” (+0.76). As in the previous contingency table results, Conflict Resolution and the fact that leadership managed change efficiently were strongly related. I posit that as team leadership manages change efficiently, conflict resolution tends to improve.



7. Conflict Resolution and “Team leadership helps others develop passion for their project work.”

The association between Conflict Resolution and the answers to the question about whether leadership helps others develop passion for their work yielded a p-value = 0.047. The positive standardized residuals presented values < 2 (Fig. 34), and the highest values (+1.91) were found when Conflict Resolution was “excellent” and the answer to the question was “strongly agree.” There were also positive residuals when Conflict Resolution was “very good” and the responses to the survey question were “agree” (+0.67) and “neutral” (+0.35) consecutively. Based on the data, these two variables also presented a strong relationship. This

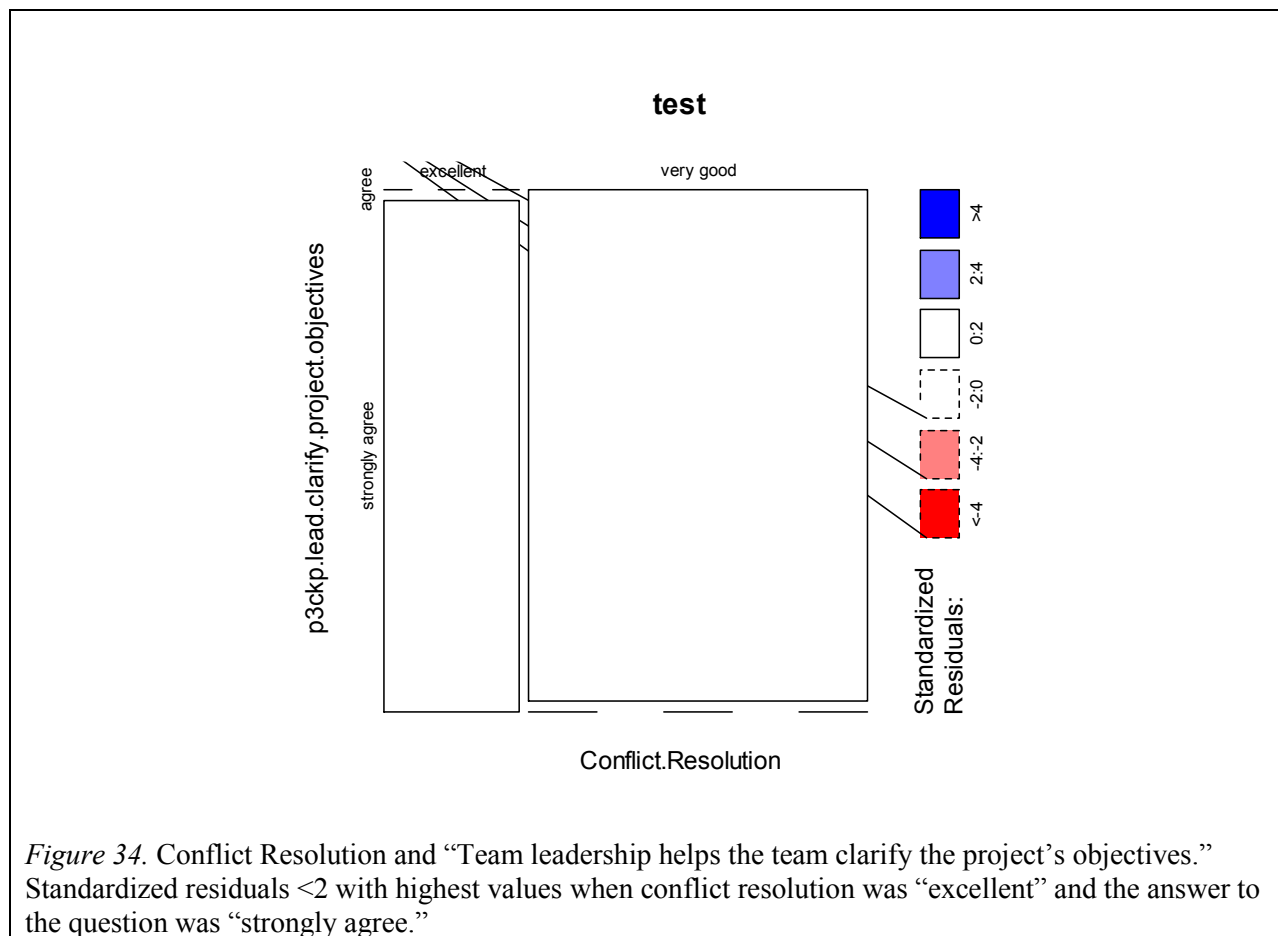
finding supports the assumption that as team leadership helps others develop passion for their work, the capacity for conflict resolution tends to improve.



8. Conflict Resolution and “Team leadership helps the team clarify the project’s objectives.”

From the association between Conflict resolution and the answers to the question about whether leadership clarifies project’s objectives through the contingency tables process, I obtained a p-value = 0.047. The positive standardized residuals presented values < 2 (Fig. 35), and the highest value (+1.91) was found when Conflict Resolution was “excellent” and the answer to the question was “strongly agree.” There were also positive residuals when Conflict Resolution and the answer to the question was “agree” (+0.76). As in the previous variable

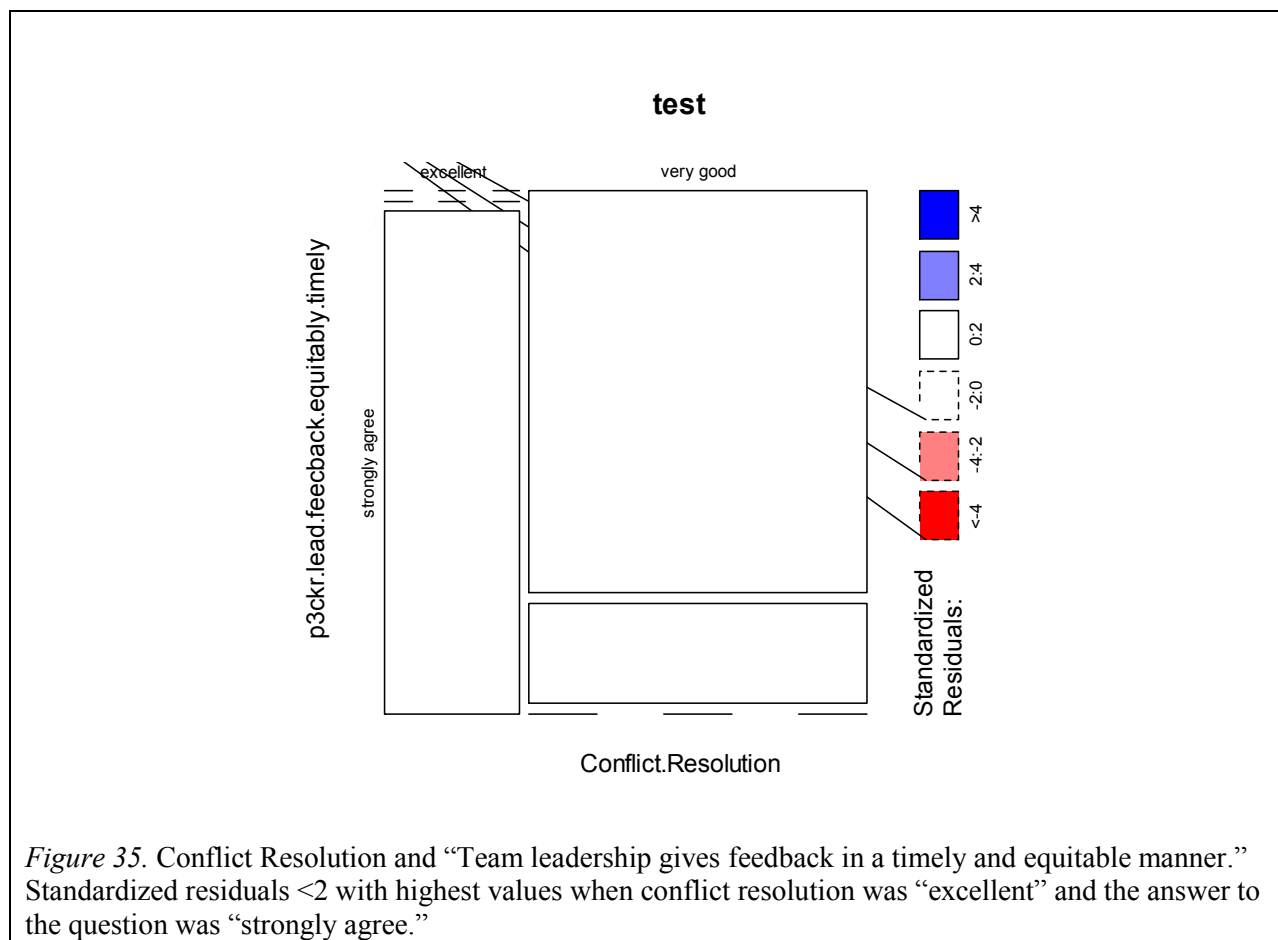
association, these were strongly related. Based on this result, I surmise that as team leadership helps the team clarify the project's objectives, the capacity for conflict resolution tends to improve.



9. Conflict Resolution and “Team leadership gives feedback in a timely and equitable manner.”

The contingency table associating Conflict resolution and the answers to the question about whether leadership provides feedback equitably and timely, yielded a p-value = 0.047. The positive standardized residuals presented values < 2 (Fig. 36), and the highest values (+1.91) occurred when Conflict Resolution was “excellent” and the answer to the question was “strongly agree.” There were also positive standardized residuals when Conflict Resolution was “very

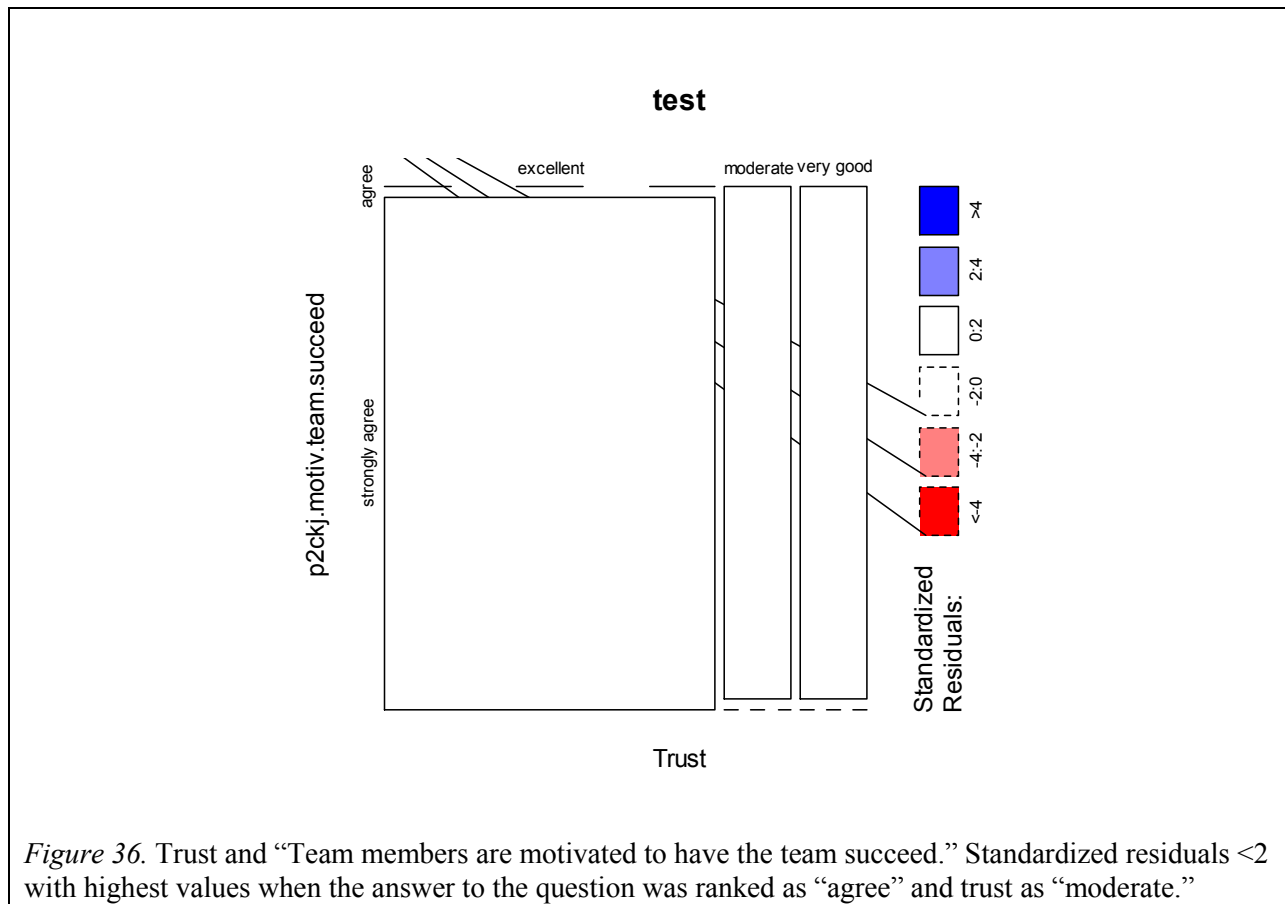
good” and the answer to the question was “agree” (+0.67) and “neutral” (+0.35) consecutively. As in the previous variable association, these were strongly related. It is possible to infer from this result that as team leadership offers feedback in a timely and equitable manner, the capacity for conflict resolution improves.



10. Trust and “Team members are motivated to have the team succeed.”

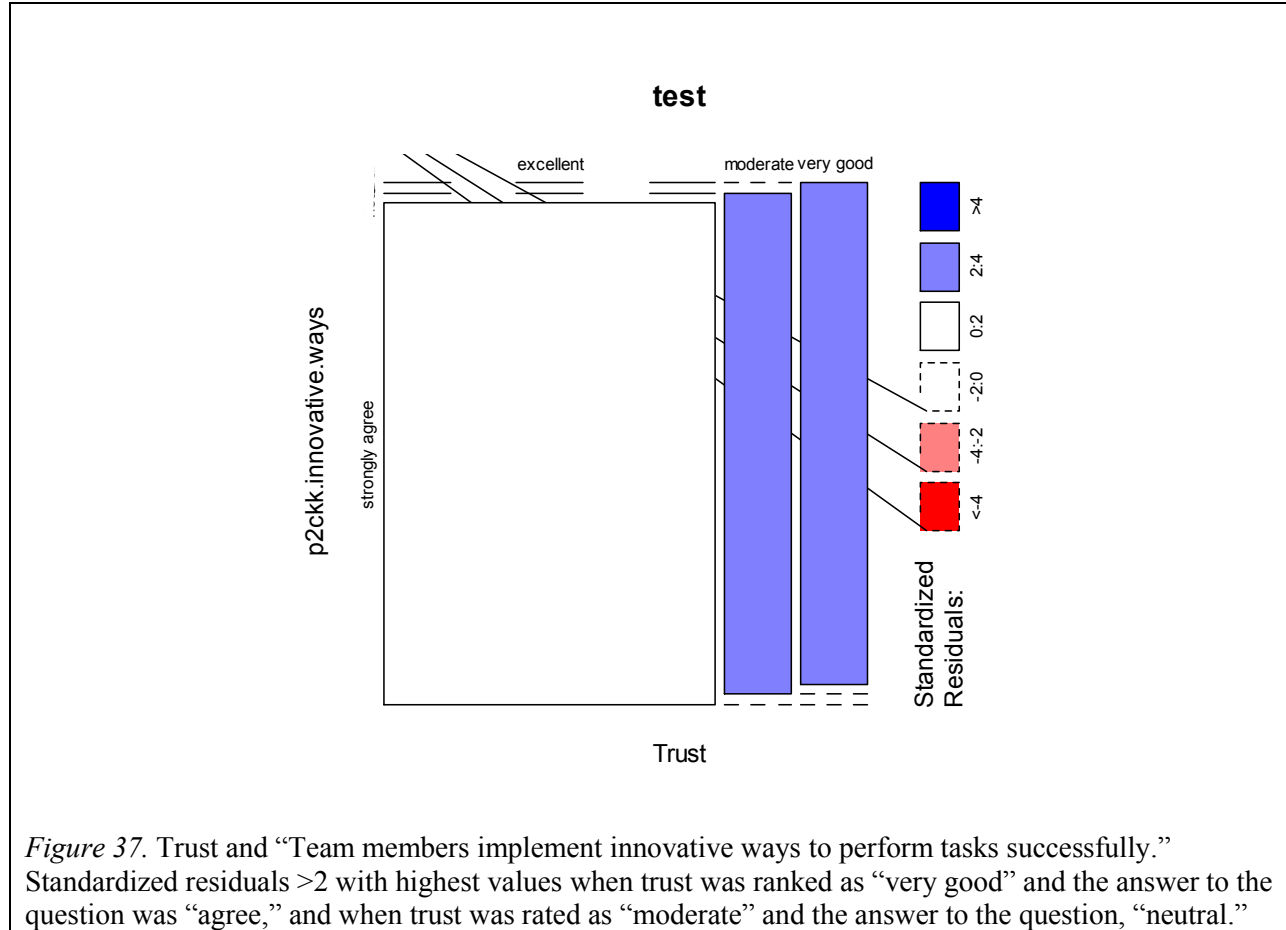
The contingency table associating Trust and the answers to the question about whether team members have motivations for the team succeed, yielded a p-value = 0.047. The positive standardized residuals had values < 2 (Fig. 37) and the highest values (+1.42) were found when the answer to the question was ranked as “agree” and Trust as “moderate.” There were also

positive residuals (+0.76) when Trust was ranked as “excellent” and the answer to the question, as “strongly agree.”



11. Trust and “Team members implement innovative ways to perform tasks successfully.”

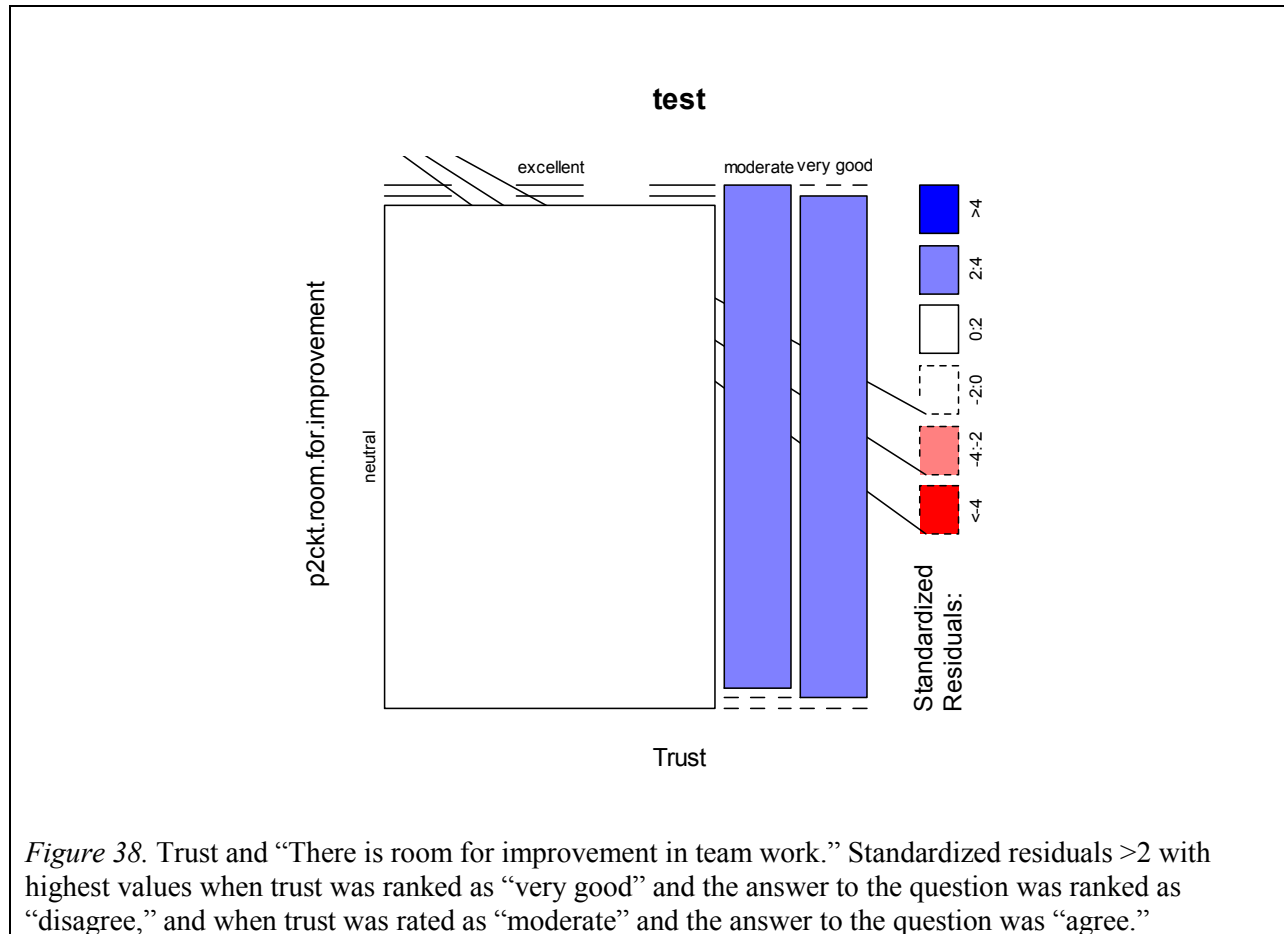
The association between Trust and the answers to the question about whether team members would implement innovative ways to perform tasks successfully, yielded a p-value = 0.047. The positive standardized residuals presented values > 2 (Fig. 38) with highest values (+2.36) occurring when Trust was ranked as “very good” and the answer to the question was “agree,” and when Trust was rated as “moderate” and the answer to the question, “neutral.” There were also positive residuals when Trust was “excellent” and the answer to the question was “strongly agree” (+0.76).



12. Trust and “There is room for improvement in team work.”

The contingency table associating Trust and the answers to the question about whether there is room for improvement in team work, yielded a p-value = 0.047. The positive standardized residuals presented a value > 2 (Fig. 39), and the highest levels (+2.32) occurred when Trust was ranked as “very good” and the answer to the question was ranked as “disagree,” and when Trust was rated as “moderate” and the answer to the question was “agree.” There were also positive residuals when Trust was “excellent” and when the answer to the question was “neutral” (+0.76). One interpretation of this result is that if team members perceive that they are working well together (e.g. they disagree or are neutral about the fact that there is room for

improvement in their team work) their Trust level is also high. It can also be conjectured that when members believe that there is room for improvement in team work, trust is not typically as high.



13. Trust and “Team leadership provides authority for members to make decisions.”

The contingency table procedure involving Trust and the answers to the question about whether leadership provides team members authority to make decisions, yielded a p-value = 0.047. The positive standardized residuals presented values < 2 (Fig. 40) and the highest values (+1.31) were found when the answer to the question was ranked as “agree” and Trust was ranked as “moderate” and “very good” consecutively. Positive residuals (+0.76) were also found when Trust was “excellent” and the answer to the question was “strongly agree.” As team members

agreed that leadership provides more authority for members to make decisions, Trust was “moderate” to “very good.” Fewer residuals were found when trust was “excellent” and people strongly agreed to the idea. It should also be noted that since Trust and Collaboration were previously shown as interdependent, and since there was a significant relationship between Collaboration and “Team leadership provides authority for members to make decisions,” this relationship is logical and should be expected.

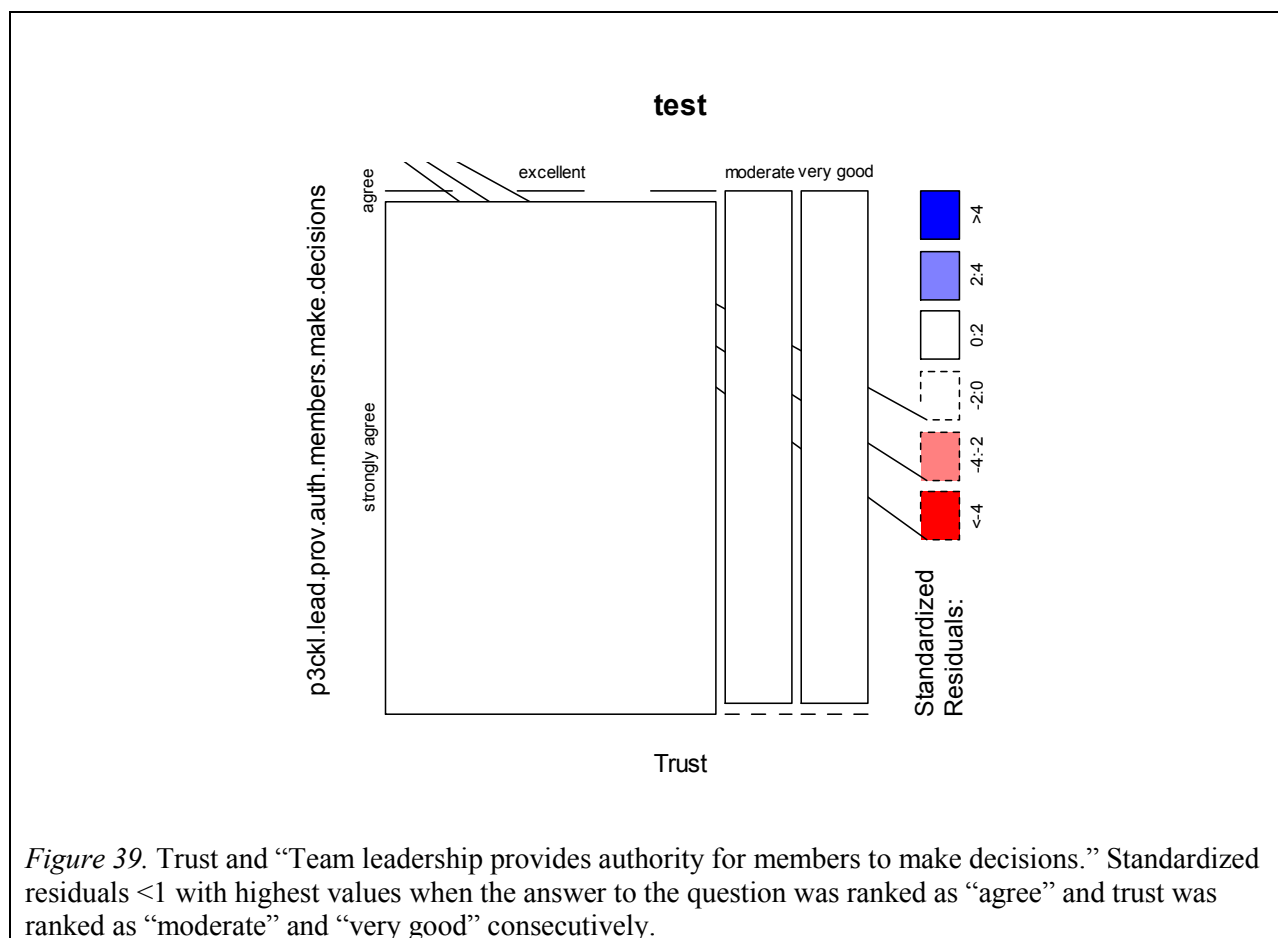


Figure 39. Trust and “Team leadership provides authority for members to make decisions.” Standardized residuals <1 with highest values when the answer to the question was ranked as “agree” and trust was ranked as “moderate” and “very good” consecutively.

8. Data from focus groups, observations and other sources

This section includes data from observations in meetings and other events, focus groups, as well as email exchanges among team members, short written questionnaires and answers to open ended questions from the survey. As in the COMPLETED case study, for privacy reasons,

the real name of the HOW was maintained anonymous, and it was named as “HOW.” In all cases, each team member’s name was replaced by a nickname in order to respect participants’ rights to privacy.

The information obtained through more than six months of observations and interactions with the ONGOING team was grouped under the same set of nine themes used in the COMPLETED case. However, since the process of data gathering was different in this case, the information for some entries was provided from each team member in response to a written questionnaire, as well as through observations during the six-month period based upon direct observation notes. Each of these notes is applicable to the entire team. The list of nine themes used to organize the qualitative data collected is presented for a second time as follows:

1. Team Composition
2. The Project Conducted by the Team
3. Project’s Start and MIP&L's Influence
4. Financing Sources
5. Major Obstacles and Sources of Delay
6. Project’s Milestones
7. Motivations to Volunteer and Inspirational Sources
8. Team Members’ Insights about Their Project Experiences
9. Impact of Sustainable Initiatives within the Congregation

1. Team Composition

The ONGOING team members operated completely on a volunteer basis. They volunteered their time, expertise, skills, networks and their own resources to help develop their

HOW's sustainability initiatives. The team, with a total of seven permanent members met once a month, and at least four of them were also part of other different committees within their HOW structure. They reported that while one former member left the team in the past, a new person entered the group to replace this past member, helping to maintain a group of seven people.

Team members have diverse backgrounds, coming from different areas of expertise. For example, the team's facilitative leader has a background in business, marketing and sustainability. Other team members reported their expertise and skills applied to the HOW specific areas of sustainability work, including:

- a. Construction family business
- b. Scientific background coupled with sustainability and problem solving skills
- c. Computer systems development skills applied to large retail businesses, providing the expertise to comprehend and manage large scale projects
- d. Law background, with experience in start-ups life science businesses, providing institutional knowledge
- e. Architecture, with experience in other HOW committees and also past and current town committees and boards involving education, architecture and zoning
- f. Expertise in project decision making and skills involving report writing and data presentation to inform other groups in the HOW

2. The Project Conducted by the Team

The ONGOING team members have been working together as part of this specific team for less than one year. During that time, they conducted and completed three initiatives simultaneously: windows replacement (by installing energy efficient windows), lighting fixtures replacement (by installing energy efficient LED lighting fixtures), and room insulation work.

When I started my interaction with the team (in May, 2015), they had already started the process of researching, contacting vendors and evaluating proposals and budgets. By December, 2015, they had completed all the installations, and they were in the process of adjusting some minor details. Each of the projects was led by one team member who was supported by the entire team. As some of the members were also involved in other HOW committees, such as the Properties Committee and the Finance Committee, some of them had been working together in other endeavors for longer than one year.

At the end of the data collection process, I asked team members how effectively and efficiently they believed the three projects had been implemented in the beginning compared to how they did closer to completion. This question aimed at inquiring how the group had developed as a team, whether positively or negatively towards approaching the “high performance team” model. Participants had different responses, but all pointed to a positive team evolution. For example, Alex reported: “... *We definitely improved as we progressed. Our assignments were volunteered for and we had project owners ... things moved much more smoothly and quickly.*” Terry pointed out that the group had some challenges while they were in the process of deciding what their priorities were, but when they reached that decision, everything started to happen very smoothly. In Terry’s words: “... *Now we have to figure out what to do next and there may well be some disagreement.*” According to Pat: “*We have picked the three easiest, most obvious projects and ... completed them. The next step will be more difficult but I feel we understand each other and we are in a good position to move on in an effective way.*”

Jordan explained that the group has performed very well from the beginning, and it is difficult to recall all the improvements made. However, he points out that the willingness of the

group members and the individuals who undertook the leadership for each of the three projects, managed them wisely and made the right choices. This was very special about the whole process. It is essential to point out the importance of the amount and quality of the knowledge acquired about the projects along the way. In Jordan's own words:

"... Everyone has learned a lot, not necessarily to do the work, but to understand what the work is and what solutions to problems need to be developed, and also to be willing to admit a lack of knowledge, and to ask for and receive help, or even more frequently, to study materials well enough to be able to respond appropriately when problems have occurred and/or critical decisions have to be made."

Hunter explained that in the beginning, the group felt overwhelmed with the possible projects that they could handle. In the beginning, the team discussed the possibilities of solar power generation, but they decided that this initiative was too expensive to be addressed at the time, so they focused on other more doable projects. Then the three aforementioned projects emerged. He pointed out: *"... When one member took the lead for the Parish House windows, everything came together and became the leadership template for the other two projects."*

Supporting Hunter's argument, Adrian pointed out: *"... the first round of projects was identifiable and 'doable.' The next round will take more discussion and prioritization."*

3. Project's Start and MIP&L's Influence

Team members in the ONGOING Case Study described several different reasons and procedures that led to the start of their sustainable initiatives. The diversity of opinions may be probably due to the fact that team members were undertaking different initiatives and there were multiple ways by which the initiatives started, or because they were unaware or unsure about this matter. Most participants reported a start after a congregation member's suggestion, or because

the team reached consensus after discussing what initiatives they needed to start first. Few participants added other motives such as the strong support to the team's projects within the HOW through the disbursement of funds allocated to this team's sustainability initiatives, or the leadership's agenda setting.

The HOW is geographically located within MIP&L's territory, and team members reported that this organization performed an initial energy audit to the HOW years ago. However, more recently the HOW's sustainable initiatives have been developed independently of MIP&L's agenda.

4. *Financing Sources*

This team counts on the financial support of a funding initiative provided through the HOW governing body. The large majority of the interviewees agreed to the fact that the support to their projects has been strong because such governing body was very satisfied and proud of the team's accomplishments. That is why the team was entrusted with the financial support intended to make the HOW more sustainable through a specific budget allocated to the development of sustainability initiatives within the HOW. This fund is managed by the team. According to Hunter: *"Our [team] has a budget and full authority to spend within that budget There has been no oversight from the HOW [governing body]. We have given updates to [them], all of which were positively received."*

Interviewees specifically pointed out that they have never experienced any lack of cooperation or response on the part of the HOW governing body. Jordan stated that all recommendations made by the team have been accepted: *"...The leadership and congregations have strong faith in our group."*

5. *Major Obstacles and Sources of Delay*

In the beginning of the data collection process interviewees reported issues such as their need to set priorities and evaluate their options to make their HOW more sustainable, and learn what can and what cannot be done. Also, they reported the time needed to do research in order to determine the best solutions to the problems at hand, evaluating the complexity of the possible solutions in terms of cost-effectiveness and budgeting, their needs for a clearer understanding of the primary energy uses or losses, and bureaucratic matters associated with town permits.

Towards the end of my observation process, when the projects were already completed, the team had overcome their initial obstacles together, and they then described more specific issues that they had to face while executing the projects. This was part of a learning process, and it influenced their growth as a group since they had each other's support to overcome the obstacles together as a team. Just as an example, when I inquired about obstacles in the beginning of my observation process, Hunter reported the following challenges: *“For replacement windows, it was learning about the alternatives. For lighting, we needed to retain an expert for advising. For insulation in the [insulated room], we [needed] to hire an architect to complete it.”* Then, by the end of my observation process and when the projects were finished, Hunter stated: *“First, we needed a consensus and [we had] the typical construction obstacles, the biggest being building permits for the Parish House windows and insulation of the upper room.”*

Regarding the particular ways in which team members were able to work together to overcome situations that posed uncertainties and risks, each team member offered a different approach. Because of this particular HOW's faith denomination, team members have the habit to practice discussion, collaboration and the search for consensus. As stated by Hunter: *“[We]*

resolve matters through much discussion. Everyone is committed, so information is obtained between meetings to help [resolve] issues raised.” Along these lines, Alex stated: *“We identify the issue and discuss options [or] alternatives, and steps to move forward. We assign [project] owners and task, and communicate via e-mails on status.”* Terry focused on the decision-making process: *“[We] try to get more information so that we can make an informed decision.”* Pat states that team members and leadership used to discuss their reasons for them to reach a consensus as well as the differences they have in their approach: *“[We] ... agree on goals, but sometimes not [in what is] the best way to proceed to reach the goal.”*

Team members also emphasized on one hand the relevance of the leadership qualities demonstrated by the people who logistically led the projects to completion, and on the other, the team’s ultimate motives leading the project when overcoming uncertainties and risk. The leaders have been very persistent in the process of advancing each of the three projects with the assistance of the other team members. Finally, other members stress the importance of maintaining faith and a positive attitude when risk and uncertainties arise. For example, Morgan presents a strategy to deal with risk: *“... [We need] focus, identification of issues, clarification of questions, answers obtained, group discussion, a bit of prayer, consensus.”* Jordan added: *“...Intense focus on problems and solutions, deep faith in tasks ... good humor and willingness to consider and act on alternatives.”*

6. Project’s Milestones

Team members provided information about their projects’ milestones by the end of the data collection process, at the time of the second survey iteration. I asked them to select one of the three projects that they had already completed at that time to describe the main steps or milestones they deemed important, and most of them selected the windows installation project.

For example, Alex described the following sequence of steps: “... *Identification of needed replacement of windows; evaluation of options of windows plus contractor; discernment of decision, and execution.*” Jordan also described the process:

“... Identification of this project as the first priority; determination of which windows and in what areas [the work should be done]; choosing among the options of new, replacement, or restoration of windows; selection of the replacement option; solicitation and acceptance of the contractor’s bid, and determination of [work schedule]; overcoming the obstacles of the delay in the town’s [project approval]; overseeing the basic work; developing the punch list and remaining items for completion.”

The other projects were also described by the group, mostly by their leaders. The lighting project started by the decision to address the need to replace lightning fixtures, hiring of a consultant and placing the order to purchase new lights. The team then hired an electrician to install the steeple lights, while team members installed the sanctuary and candelabra bulbs. Finally, they evaluated the process, by tracking the HOW’s electricity consumption, in order to determine the effectiveness of the process. Regarding the room insulation project, the team undertook a project that was identified by the HOW’s Properties Committee as a priority for more than a decade, and discussed the possible solutions. They consulted insulation improvement options with contractors and architects specialized in insulation matters. Based on their opinions, they addressed the needs for improvement presented by the existing building structure. Finally, the building plans were improved, to comply with state laws and town building codes.

7. Motivations to Volunteer and Inspirational Sources

Inquiring about team members’ personal motivations and inspirational sources that led

them to volunteer their time, energy and sometimes their own resources in order to help make their HOW more sustainable was key in the process of understanding HOW teams' success.

Team members report different motives such as their preferences to be involved with teams that do constructive things for the HOW within this specific team or other committees. Some of these initiatives are Adult Education Learning Ministry, the Congregation Clerk's Office, and the book group discussions. Jordan explained some reasons that make this team special: "... *[W]e have a substantial amount of money to be invested in 'greening' the HOW for the future, and a lot of independence in determining not only what projects are selected but also in researching and managing their completion.*" Hunter focused on spiritual motivations to help the HOW and its members:

"This is my HOW, my spiritual home. It is where I come for comfort and guidance. It is an important component of my life. Helping my HOW be a better place is part of my commitment as a member ... Being a member of this HOW is part of my faith journey."

I also inquired about their inspirational sources, including people, organizations or anything else that prompted them to engage in the mission of protecting God's Creation. Most people disclosed their interest in addressing climate change issues and finding a solution within their community of faith, where they can become inspired and help each other. Others focus on specific inspirational people from faith, scientific or other communities. For example, Pat pointed out: *"I am inspired by a vast number of scientists [and] visionaries who collectively show how to minimize resource wasting and accomplish the tasks we want to, with the lowest impact on the finite resources we have to work with."*

Other team members reported finding their sources of inspiration within their own team, reporting that they cherish the fact that they work along with friends in cooperation towards a common goal. Jordan indicated being inspired by the enthusiasm and passion demonstrated by the team leader and the other team members, especially each of the project leaders. In Jordan's words: "... *I am so honored to be in [this] group and involved in publicizing, supporting and celebrating their achievements.*" Finally, Hunter conceives the HOW as a community, and points out that the entire community is, by itself, the main source of inspiration. In his own words: "*A very important component of the community is its staff.*"

8. Team Members' Insights about Their Project Experiences

Team members shared their insights and reflections about their experiences working on their three HOW sustainability initiatives. That led to interesting discoveries about how they experienced the process together as a team, and how the newly acquired knowledge could contribute to inform the best way to conduct sustainability initiatives at the HOW level. Participants addressed this issue by the end of the data collection process, after their three projects were already completed. Therefore, their answers revealed extremely valuable lessons to be included as guidelines for "best practices." For example, Alex pointed out:

"The start was a bit rocky in terms of establishing the team and the process.

The governing body was trying to figure out the best approach, so things started slowly. It would've been helpful to have the process more complete. I also wish we had a team member with building and engineering skills."

Pat stated that as part of their learning experience, the HOW needs progressively became clear, and they have made an effective effort to address them in the beginning. According to Pat, "... *This has been effectively communicated to and supported by the leadership.*" Jordan pointed

out that it would have been more effective to work more closely and in collaboration with the separate Chapel Committee since they have a particular expertise that would have been extremely useful to the team. On the other hand, Jordan believes that the team had so much enthusiasm and so much knowledge to share with others at the HOW: “... *Our group has such enthusiasm and energy that I think we would be able to share that well with others, and inspire them to make progress too.*”

Finally, when asked about what leadership could have done differently, some participants reported not having a definitive answer to this question. Others praised the leader for their team’s success. For example, Hunter pointed out that “[*The team leader*] *did an outstanding job!*”

9. Impact of Sustainability Initiatives within the Congregation

Finally, data about the impact of the HOW sustainability initiatives in the congregation, was extremely important to determine how team members assessed the influence of their work in congregation members’ lives. According to team members, the message implicitly sent by the HOW to the congregation regarding the importance of reducing the environmental footprint, has exerted a positive influence demonstrated by congregation members’ praise for the team’s accomplishments up to date. By the end of 2015, the team had still no substantial evidences about energy savings as the result of the recently finished sustainability initiatives, but they are expecting that those savings will become more evident and start bringing benefits to the community during the following years. According to Pat: “*Only the [lighting fixtures improvements] can be accurately quantified: [approximately] 90% saving. We’ll look at annual electricity and fuel usage, and we expect to see decreases in monthly usage. ... Perhaps ... 20% for what we’ve done so far.*”

According to Hunter, people in the congregation seem to believe that the team has been successful due to the fact that their projects have been actually completed. He also added:

“We have anecdotal evidence from people who said that their offices are now more comfortable (cooler) on summer afternoons. We estimate that the new LED lights will reduce our CO2 emissions by about 3.5%. We do not have estimates for the windows or the [now insulated room]. We will know more by next year when we are able to compare actual energy usage.”

Jordan pointed out an interesting fact: the team started by selecting the right beginning projects, those that provided the maximum payback to the HOW staff members for their investments in terms of funds and efforts. In Jordan’s words:

“The Parish House windows will make life so much easier for staff and meeting spaces, used more frequently than any other places in the Church. The lighting will improve the appearance of spaces, particularly the steeple lighting. And the insulation and acoustical improvements to the upper room will make this space much more useful, and it has a size and appearance that will be very appealing ... There are already indications that these three projects will each provide reduction in the environmental impact and the cost of the energy supply ... let alone the qualitative improvements already apparent.”

Finally, Hunter stressed the importance of the projects’ visibility within the congregation, in addition to CO₂ emissions reduction, energy savings and the decrease of building operation costs. In Hunter’s words: *“The feedback from the Congregation has been positive. Two of the projects completed so far have high visibility: the Parish House windows and the upper room.”*

Terry also commented: *“People have already asked about the bulbs and the windows. We have had one information session ... and we will have more.”*

Team members agreed that their HOW sustainability initiatives have already influenced the congregation enough to make people feel motivated to bring those ideas home. For example, since the replaced windows have already benefited the HOW staff on a daily basis by saving energy while maintaining comfortable conditions in their workspaces, this has the potential to inspire those people to adopt those ideas and become sustainable in their own houses. Some team members also explained their reasons to become more sustainable in their own homes. For example, Alex built a LEED certified house, including an array of solar panels to provide electricity. Jordan is now switching to LED lighting fixtures in his condo association.

In the next section, Chapter 5, a discussion of the results and the conclusions are presented.

Chapter 5. Discussion and Conclusions

Introduction

The main goal of this research is to enhance the understanding of successful sustainable initiatives conducted by HOW teams, by examining interpersonal relationships of team members, identifying processes supporting team dynamics and performance improvements, and producing a set of guidelines for other HOW teams that are contemplating to undertake similar types of initiatives in the future. The discussion in this section is organized to serve the purpose of answering the research questions and verifying the hypothesis stated in Chapter 1, as well as providing a list of limitations of this research and a set of recommendations for future research.

Answering the Research Questions

1. Main research question.

The main or central research question states: *How do the interactions among the members of teams of volunteers, including their facilitative leaders, in Houses of Worship, support the development of positive team dynamics and performance that directly leads to successful planning and implementation of sustainable initiatives?* The answer to this question explores the relationships among team members and between team members and their facilitative leader, while the hypothesis of this research assumes that the positive improvements of those relationships help teams improve performance towards successfully implementing sustainable practices. The analysis of the interactions between the variables assessed in the survey provides the basis for answering this question. The use of contingency tables and their graphic visualization through mosaic plots was useful to explore and understand the relationships of pairs of variables with the purpose of uncovering some of the reasons explaining team success. My definition of team success includes outputs demonstrating the efficient and effective team

performance. The team characteristics associated with success were identified from these interactions and partially in the data obtained from the open-ended questions to the survey as well as from the interview questionnaires and focus group sessions. These characteristics that help a team succeed are the basis for the proposed “best practices” for HOW teams to undertake sustainable initiatives.

When analyzing both case studies, the results from the survey revealed generally positive responses, and this may be due to the fact that the initiatives were successful and therefore team members had positive responses to the questions. In the COMPLETED case study, the analysis of the interactions between pairs of interpersonal processes shows interdependence between Communication and Trust. As communication within the team improves, trust tends to improve as well, which makes sense taking into account that this is a clear evidence of the group evolution from the phase of “forming” towards “performing” (Tuckman, 1965).

Of the seven interdependence interactions presented in Table 5, Chapter 4, three involved the role of team leadership. Of these three relationships, cohesion was involved in one case, and collaboration, in two. I posit that the role of leadership was fundamental in the process of group formation and the continuity of the initiatives towards completion. The interdependence between collaboration and the team’s positive responses to the fact that they were comfortable with their leadership’s guidance, is an indicator that as their leader was effective and made the team feel comfortable, the levels of collaboration increased. This relates to the previously described relationship between collaboration and trust, in which as trust increased between team members and their leadership, collaboration tended to increase. That relationship also relates to the interaction between collaboration and the team’s belief that leadership clearly explained the goals, objectives and plans to them. Clarity in these aspects of the task at hand also implies a

good delineation of roles and responsibilities within the group, which minimizes confusion and conflict. This interaction suggests that as team members believe that leadership was effective in improving clarity in team's goals, objectives and plans, they also tend to believe that collaboration improves. Also, it could be said that as leadership helps the team improve understanding about the tasks at hand, assuming his or her role in enhancing clarity in goals, objectives and plans, the team tends to feel more engaged and encouraged to collaborate. Indirectly, I posit that as the relationship between collaboration and the team's positive responses to the question about to what extent the team's goals and outcomes were clear relates to the role of leadership, and the positive responses to this question are related to higher levels of collaboration. Correlating to the Tuckman's (1965) model, it can be said that leadership can help the group in the beginning by helping them go through the phases of "forming" and "storming," so the group can pass to the phase of "norming" and then to "performing."

In addition, other interrelationships not directly involving leadership were found. A positive response to cohesion, a process that can be understood as the degree to which team members feel attracted to the team and compelled to stay in it, presented a positive relationship with the group's belief in the fact that they were producing high quality work. If the group strongly agreed to the fact that they were performing high quality work, then the team cohesion appeared to be higher. This may evidence a team's evolution towards the most developed phases of "performing" (Tuckman, 1965). The relationship between cooperation, or the capacity to operate together as a team, and the positive answers to the question about the availability of technical support suggests that as technical support to the group improves, the group's capacity to operate together to complete their tasks also improves.

Comparing contingency tables and mosaic plots from the COMPLETED case study survey to the ONGOING case study survey (first iteration), the ONGOING case data presented comparatively more interrelationships involving answers to questions related to team leadership. This appears to be due to the fact that in the last case, the team was more directly connected to its leadership, and the team maintained an ongoing relationship as it developed. It was not possible to find such level of connection in the teams included in the COMPLETED case. This result was anticipated.

The analysis of the data from the first survey iteration of the ONGOING case study indicated a relationship between collaboration and coordination on one hand, and between collaboration and trust on the other (Table 6, Chapter 4). The first pair of variables shows evidence that as coordination of tasks improves (making the tasks, responsibilities and goals clearer), team members are more committed to collaborate. Regarding the interaction between collaboration and trust, collaboration was very good even at moderate levels of trust. It can be concluded that if a team was collaborative, led by the facilitative leadership, it was more likely to accomplish its goals.

Of the ten interactions that revealed mutually dependent variables (shown in Table 7, Chapter 4), six were related to questions involving the role of team leadership, and this presents a similarity to what was found in the COMPLETED case study. Of these six interactions in the ONGOING case study survey (first iteration), three involved conflict resolution. It can be concluded that the role of the facilitative leader was key to conflict resolution in the process of team dynamics development and team performance improvement. For example, conflict resolution related positively to the answers to the questions about whether team leadership managed change efficiently, and whether team leadership focused on creating a healthy and

comfortable environment for the team to operate. It is possible to further posit that team members believe that leadership created favorable conditions for the team to overcome challenges, avoiding major conflicts that would challenge team's integrity, and at the same time allowing the team to function in a healthy and comfortable environment.

Team conflict resolution also related directly to positive answers to the question about whether the leader was able to efficiently draw support from the community, leading to the conclusion that as leadership was more involved with the community, the team felt more confident to resolve conflicts and reach agreements. Coordination also presented an interdependent relationship with the question about whether leadership was able to draw support from the community. Some responses to coordination were positively related to "I don't know" answers, which may be due to the fact that some respondents were not aware of whether leadership drew support from the community or not.

Team cohesion shows a strong relationship with the answers to the statement about whether team leadership encouraged people to communicate their opinions. It seems that the fact that leadership encouraged communication, helped to improve cohesion within the group. This suggests that communication improvement may have been especially incentivized by team leadership, and therefore, it appears to be important for these groups that leadership initiates or encourages communication, including supporting team members to voice their opinions. From observations of the team during the data collection process, the important elements of the facilitative leader's role included: bringing the topics to the table; organizing each meeting's agenda, and summarizing the main points discussed. The leader was also the one to moderate discussions about specific topics. This suggests that the role of leadership encouraging people's opinions is key in the process of increasing team cohesion. The relationship involving cohesion

and the statement inquiring about whether team leadership valued and recognized team member's individual contributions stresses again the importance of the leadership role. The data show that when team leadership values team member's contributions, team cohesion tends to improve as well.

Team conflict resolution showed dependence with variables not involving the role of leadership as well. For example, it showed a positive relationship with non-frequent changes in team membership, which makes sense since as team members work together for a longer period of time, they tend to become acquainted and used to work well with each other. Conflict resolution also positively related to positive answers about team members' levels of satisfaction by working in their teams. Generally, as little changes happen in the team composition, and as team members tend to feel more satisfied working in the team, the capacity for conflict resolution tends to improve within the group.

Finally, a strong interdependence involved trust and the answers to two survey statements: whether a member would highly recommend his or her team to successfully complete a sustainable project on one hand, and whether a member was motivated to have his or her team succeed. These statements were essentially related since they evidenced team member's perception of their team performance, and their own sentiment about the group. It was expected that they both had a similar interdependence with trust. Team members are more motivated to have their team succeed and they would recommend their team to develop future initiatives as far as trust had been built to the highest levels.

The data from the ONGOING case study survey (second iteration) indicated that the strongest relationships were found between cohesion and cooperation, between cohesion and coordination, between cooperation and coordination and between trust and collaboration (Table

8, Chapter 4). The data in the first three interactions indicated that cohesion, cooperation, coordination and trust vary in a similar direction, improving together within the group. High levels of collaboration were associated with moderate to high levels of trust, indicating that even when trust was moderate, team members considered that collaboration met high standards. This suggests that members were moved by a significant trust in the team, but also that the role of their leader might have been key to keeping the group motivated to collaborate towards successfully advancing the projects.

Thirteen interactions showed interdependence between variables as presented in Table 9, Chapter 4. Seven of these interactions involved the role of leadership, and five of these seven involved conflict resolution. These results are consistent with the ones obtained through the first survey iteration, which appears to indicate that the role of the facilitative leader is important in the process of conflict resolution towards improving team dynamics and performance. Team conflict resolution showed a positive relationship with the positive responses to five survey statements related to leadership. First, conflict resolution positively related to whether team leadership helped the team clarify the project's objectives, suggesting that as leadership made the project's objectives clearer, conflict was reduced. Second, conflict resolution was positively related to whether team leadership gave feedback in a timely and equitable manner, and the data indicated that leadership's feedback provided in a timely manner helped reduce conflict or enhance the capacity for conflict resolution within the team. Third, this interpersonal quality was positively related to whether team leadership addressed potential issues or conflicts early in the process, and the positive relationship suggested that an early address of potential issues by team leadership helped to resolve conflicts within the team. Fourth, conflict resolution was positively related to whether team leadership managed change efficiently, and the data suggested that

efficient change management by leadership improved the capacity to resolve the conflicts that emerged within the group. Finally, conflict resolution relates to whether team leadership helped others develop passion for their project. The data suggests that as team leadership helped team members feel comfortable and develop passion for their work, possibly leading by example, team members felt more inclined to negotiate and improve their capacity for conflict resolution.

Team collaboration and trust were also strongly related to the role of team leadership. Both of these interpersonal processes were related to the responses to the statements about whether team leadership provided authority for members to make decisions. The data suggested a positive relationship between the variables, in which team leadership can improve collaboration among team members by giving them opportunities to make decisions. It seems that this provides them ownership and direct responsibility for the development of tasks, prompting them to engage in collaboration with other team members. Trust also relates to this statement, and the data suggested that team members agreed to the fact that team leadership provided members the authority to make decisions, whether the levels of trust were moderate or very good.

The relationship between trust and collaboration demonstrated a mutual dependence. Each of these two interpersonal processes are related to each of the following three statements: whether team members were motivated to have the team succeed, whether team members implemented innovative ways to perform tasks successfully, and whether there was room for improvement in team work. In the first statement, the data suggested that as collaboration improved, members felt more motivated to see the team succeed. From the interaction between trust and that statement, it is possible to conclude that team members considered that they were motivated to have the team succeed when the levels of trust was considered moderate to

excellent. The issue of team members being motivated to have their team succeed has been recurrent in these interactions when exploring the ONGOING case study data, either related to trust or to collaboration, and that was notable. Collaboration and trust are also positively related to the statement about whether the team implemented innovative ways to perform tasks successfully. The data suggested that as collaboration and trust improve, team members feel inspired to implement innovative mechanisms to conduct the initiatives. Finally the statement about whether there was room for improvement in team work was also related to high levels of collaboration and trust, but presenting opposite rankings. For example: when collaboration was ranked high, some people in the same team would state that there was room for improvement while others would state that there was not room for improvement. A similar situation was found in the case of trust. This result suggests that while collaboration remains high (either when people think that there is room for improvement or they think there is none), people trust that the others are doing their best to perform their tasks and develop their initiatives, and therefore they do not foresee much room for improvement in the process.

2. First specific research question.

From the analysis of the interactions between the different variables, it became apparent that the role of the facilitative leader was a key element in the success of these teams, and team members understood the role of their leader as being fundamental to the successful completion of their projects. The data then supports the position that the role of the facilitate leader is a pivotal structure maintaining the team members together, and at the same time, as the functional force keeping the team motivated towards achieving their goal. Therefore, the analysis of the quantitative data was also fundamental in the process of partially responding to the first specific research question: *How does a facilitative leader's practices enhance the process using the conceptual framework of "self-managed," and "high performance teams?"*

In addition, qualitative data collected from interviews, focus groups, observations and open ended questions in the survey contributed to complete the understanding about the role of leadership in helping team evolution. While in both, the COMPLETED and the ONGOING cases, the role of the facilitative leader in successfully completing the initiatives was fundamental, it was not possible to clearly identify how that leader may have contributed or not to the team evolution towards approaching the high performance team model in the COMPLETED case study. This part of the research question had to be examined through the analysis of the ONGOING case study data, in which the team evolution and consequently the role of the leader became apparent. During the focus groups meetings (especially during the third focus group), members of this team stated that when they first undertook the responsibility for the sustainable initiatives, nobody knew what to do or how to start. This changed when one of the members offered to assume leadership for one of the three initiatives, and later other two members followed suit. This evolution resonated with the idea of “norming” established by Tuckman (1965). What was observed, then, was a phase in which the group had evolved from “forming” and “storming,” towards “norming.” By the time the three team members voluntarily assumed their responsibilities for leading the three projects, the team started to move to the final phase of “performing.” Then the leader of the entire team assumed a role as supporting and facilitating the leading roles of each of the three project’s leaders, and helped them to organize the tasks, but allowing them to make decisions needed to mobilize the necessary resources. This evidences, on one hand, the presence of a “self-managed” team, and on the other, the role of a “leader with facilitative skills,” who also helped to keep the entire team motivated and attentive to the developments of each of the projects, and encouraged and recognized every accomplishment during the process. The leader also helped the decision-making when the group

dynamics posed some challenges or when the team members could not reach consensus about specific issues. Briefly returning to the discussion about the survey responses of this specific group, I posit that the group dynamics improved by the improvement of the levels of communication and trust. Collaboration, cooperation, and conflict resolution (this last one with a strong support of the facilitative leader) also improved, and the cohesion within the group also appeared to have improved. This evidently helped improve the team's performance that led to the completion of three initiatives in approximately six months. The group is now enthusiastic about undertaking more challenging sustainability initiatives within their HOW.

3. Second specific research question.

The second specific research question is stated as follows: *What are the lessons learned by these teams as the result of the improvement of their team's social dynamics and the successful implementation of their sustainable initiatives?* The answer provides information about what takes for a HOW team to advance and successfully complete a sustainable initiative, and what team members have learned from such experience. This knowledge offers the basis to elaborate a set of proposed guidelines for the implementation of sustainable initiatives by HOW teams.

Qualitative data were primarily used in the process of answering this research question. These data helped to reveal how team members saw themselves as being part of a successful team, and were obtained from interviews, observations and focus groups, as well as team members' comments and answers to open ended questions in the survey. By answering these open ended questions, team members found an opportunity to express their opinions and share what it would be their advice to others, based on their own lessons learned. The data obtained described interviewees' lessons learned from the development of the sustainability initiatives at their respective HOWs, highlighting topics and issues that appeared to be important or relevant

to them. They are summarized and grouped into the following six categories: *1. Leadership and the Importance of the Message, 2. The Motivations for Team Members to Volunteer, 3. The Team and Its Relationship with the HOW's Congregation, 4. The Importance of Knowledge, Skills, Experience and Planning Ahead, 5. The Advantages of Involving Members of Other HOW Boards or Committees, 6. The Facilitative Leader Providing Ownership to the Team, 7. The Benefits of Starting Small, and 8. The Beauty of Timing and Opportunity.*

1. Leadership and the importance of the message.

Team members' answers to interview questions suggested that besides team members' strong conviction about their mission to protect creation, there is another key element: the way leaders at all levels of the HOW organization, from team leaders to spiritual leaders, deliver their message to engage other people in the congregation. The message leads people towards doing the "right thing" to protect creation, even if that is not necessarily what makes financial sense from the pragmatic and individualistic points of view. Sometimes, the right thing to do may not be what makes financial sense within the HOW congregation or community environment. In order to bring a positive influence to the community, it is necessary that HOW leaders show their genuine conviction about the need to make a positive impact in the world. This message then becomes instilled in the culture of the team members and their leader, helping improve team dynamics and performance, since they have then the clear goal of protecting Creation in the back of their minds when discussing decisions and executing their tasks. One interviewee pointed out

"... It is part of the message that we consistently send ... We try to hold ourselves up as an example for all of these different ways of being together, and environment was one of those. [People take] any step they can."

Interviewees also point out the importance of their leader's enthusiasm and personal motivations. For example, an interviewee stated: *"[Our Team Leader] is very determined and I think part of his determination comes from the fact that protecting the environment is part of his calling."*

2. The motivations for team members to volunteer.

Volunteers in HOWs fit two main categories: the ones who also have a day job and generally other responsibilities that demand most of their time and energy, and the ones who are retired from the workforce, counting on more free time, and who have found in their HOW teams a way to give back to the community, contributing to improve the environmental quality of their congregations. While both have obvious different time availability, both types of volunteers are equally willing to cooperate and help advance the sustainable projects, sharing their passion for and dedication to their HOWs. Having people volunteering at the HOW implies that they are not formally attached to any agenda or deadline. However, most of the time people are willing to offer their expertise voluntarily when nobody presses them into doing it. It is important, then, that the team, and especially the facilitative leader knows how to manage the opportunity to lead a group of motivated volunteers towards successfully completing a project.

Another important aspect of the volunteering process is the emphasis of team members on either the process or the goal when conducting a HOW sustainable initiative. For example, an interviewee pointed out that the process is more important than the goal, while two of her teammates said that it depends on the circumstances, and most of the times process and goal are equally important. In one specific project, the HOW team's initial idea was to develop a sustainable practice consisting of cleaning city public parks. They then decided to prepare information flyers to be distributed among community members, in order to discover the number

of people they could reach and engage in the initiative. The HOW team then completed several parks cleaning work with the community's help and support. Participation gave team members the sense of empowerment, which prioritized the relevance of the process versus the goal. The team helped to reinforce such empowerment by producing a call for action report including personal narratives from participants, pictures and other engaging visual resources, as well as providing publicity and diffusion to the park greening work through poster presentations and networking activities through e-mail lists for community's participants. They also created especially designed metallic reusable water bottles (containing the HOW logo besides the recycling logo), that were used by the volunteers, and also sold to the public. The purpose was setting an example and sending a message about the need to avoid plastic water bottles. The project's process became then a catalyst for the integration of the entire community. According to team members, the initiative had a "snowball effect," and it was a learning experience. They also learned that other congregations in the region, from different religious denominations, were also interested in doing a similar work but they did not have the needed knowledge or expertise. All groups then joined forces and facilitated the process for each other, cooperating in the effort.

Participants stressed the importance of the goal and pointed out the importance of the ultimate objective: as a community, contributing to make our Planet more sustainable. Interviewees reported building blogs as well as practicing community outreach and education to teach other people how to be more energy efficient in their daily lives. They stressed the fact that everybody should make a personal commitment and assume their own responsibilities instead of blaming others for the shortcomings. For example, an interviewee stated that instead of blaming the energy businesses for producing fossil fuels-based energy, we need to take responsibility for reducing our energy consumption, which would lead to the reduction of energy production.

It can be concluded from these teams' experiences that team members may judge either the process or the goal, or both as the most important focus of their initiatives, and that is a personal choice. However, these ideas are not incompatible and the differences of opinions do not appear to interfere with the group's dynamics and performance improvement.

3. The team and its relationship with the how's congregation.

The data indicate that there is generally strong support from the HOW community towards their specific initiatives. In general, congregations received the initiatives positively, and they are also able to see how they may benefit from them in the future. One interviewee described how their congregation willingly welcomed the solar panels' project:

"... Bringing the Parish on board ... nobody thought it was a bad idea ... it was great!

Nobody was worried about it, nobody thought it was going to be an eye sore, nobody was trying to talk us out of it, so it was important."

On Sunday, November 15th, 2015, a significant number of congregation members (more than thirty) attended an event held by the ONGOING team after Service. Team members placed two tables with information materials in the parish house community room during coffee hour, with the purpose of providing written information and educating attendees about the success accomplished by the team by having three sustainable initiatives completed during the year. Congregation members celebrated the accomplishments with enthusiasm, and some of them were also willing to implement similar initiatives in their own homes. It could be noticed that the community was happy to see the improvements and the initiatives' savings potential.

HOW team members want to see their congregations and their entire communities advancing towards being more sustainable and efficient in the use of resources. People in HOW teams are willing to "give back" to their communities, and become creative in finding ways to

make them more sustainable and saving their resources. For instance, an interviewee who saw his HOW solar panels project completed, reflected about the future path that, in his view, solar PV generation capacity at the community level should adopt:

“... from what I learned during the last 2-3 years ... I have some reluctance to believe that the best way forward as a community is for everybody to have their own patch of panels in their own house. To me, the most efficient way to do this is to find a large, empty field, several acres of size, maybe what is called a brownfield ... clean it up, maybe with all kinds of tax subsidies and incentives associated with the cleanup, and then ... line it up corner to corner with solar panels. Then, they have shares, like a company shares, that would sell ... the power to either residential or commercial customers, or maybe a mixture of commercial, industrial and residential customers. Because you have the economics of scale, [and only] one financial package, one set of permits, and one set of lawyers involved ... to me, that sounds like ultimately the way to do it.”

Based on his experience, this team member suggested the implementation of community solar mechanisms as a more efficient initiative to generate solar energy and benefit HOW congregations and their entire communities in the future.

4. The importance of knowledge, skills, experience and planning ahead.

Participants pointed out that not having previous experiences in developing solar PV initiatives, for example, and sometimes not having the needed knowledge from the start, can be a significant obstacle to the development of the HOW project. Teams were concerned about not knowing what a good contract would look like, or whether it would be a good deal for the HOW or not, or the legal, bureaucratic and technical steps that are needed to conduct the project. Some

teams reported this initial lack of expertise at the beginning of their initiatives, and therefore their inability to plan ahead of time.

Another important aspect of the knowledge is related to the future savings potential of solar PV or any other initiative at the HOW level. For some groups, savings potential and the correlated environmental impact reduction were the key elements for them to evaluate success.

As an interviewee pointed out:

“I have access to all the numbers, so I know how much we are paying for the power, and I know what the power costs, and it costs a lot more than [the price] we are paying for it. So ... it is costing now 21 or 22 cents, and we are paying 13.5 cents. We are saving about 8.5 cents per kW/h, and I think we are generating about 2500 kW/h per month, so we are saving about \$200 a month. ... [The solar installer company] has a website, and at any time I can go and see what the system is generating at that very moment, or for the last week, or the last month, or the last year, or any time I want to measure it... It is hard to quantify the environmental impact, but you know it is real. The financial impact I can quantify ... easily, and I think it correlates ... well to the environmental impact. So I am very convinced that this was a great decision.”

5. The advantages of involving members of other how boards or committees.

The planning and decision-making process for the implementation of an initiative requires bureaucratic procedures involving different needed permits and authorizations, some of them from the HOW internal governing structure. The different boards or committees within the HOW are also formed by volunteer membership and meet on determined schedules that most of the times do not fit the team's schedule. The team, then, needs to wait for the specific committee to meet in order to discuss the issue. However, if it is possible to engage at least some of the

members belonging to other boards or committees, and having them as part of the team, it would help streamline the processes of evaluation and approval. For example, the ONGOING team has members from the Board of Nominating, the Board of Finance and the Board of Properties, which helped to accelerate the decision-making and approval processes necessary to advance the windows upgrade, lighting fixtures replacements and room insulation initiatives within the HOW. Finally, having people from other boards or committees not only inside but also outside the HOW structure (town committees, for example) enhances the team's networks. As an interviewee pointed out in a written statement: *"We rely on our contacts (networking)."*

6. *The leader with facilitative skills providing ownership to the team.*

Team members in both the COMPLETED and the ONGOING case studies appeared to be very committed and dedicated groups. Furthermore, one interviewee described his team as *"a group of engaged professionals that engaged others."* People in charge of specific tasks within each team were able to engage other people in the group, who helped in the process of planning and decision-making. Each team member, then, educated him or herself in order to better contribute to the team work. This is an evidence of the importance of task ownership, and the need for the team leader to give team members the opportunity to take responsibility for the planning and decision-making. The leader also needs to engage the team and others within the HOW structure in order to gather the support needed to move forward. The data generally revealed a positive attitude towards providing task ownership on the part of leaders, and accepting ownership on the part of team members. There was also willingness for mutual support between team members and leadership.

7. The benefits of starting small.

Participants reported that it is possible that their solar PV projects or initiatives were successful due to the fact that other projects that needed smaller amounts of monetary and/or human resources and time happened first and served the purpose of consolidating the team. In other words, taking advantage of the “low hanging fruit” first prepared the team for undertaking more significant challenges later. This helped people feel empowered and prepared to undertake bigger challenges in the future. Solar PV installation projects are particularly challenging in terms of monetary costs as well as legal and bureaucratic matters, and therefore, when completed, they represented particularly visible accomplishments at the HOW community level, regardless of the challenges encountered in the process. Some HOWs are more proactive than others when it comes to advertise their sustainable initiatives. By the time this research started, there was a strong momentum in terms of solar PV developments and other sustainable initiatives within the HOW environment in Massachusetts, helping engage more people within the entire community in the process of becoming more sustainable.

8. The beauty of timing and opportunity.

Several team members pointed out the importance of timing and opportunity when obtaining government incentives in order to implement sustainable practices, especially solar PV projects. State and Federal government incentives have been fundamental to the solar power generation initiatives in general, and it has helped the HOW initiatives indirectly. HOWs are not allowed to benefit from government subsidies, but in a power purchase agreement (PPA) it is the private financial partner the one able to obtain such benefits. The incentives are not always available, and one interviewee reported that his HOW was fortunate to have the PPA proposal approved in 2013, because these incentives might come to an end in the future. He recalls that when people at

the congregation asked the team whether they should wait because the solar technology was going to improve, they explained that the technology certainly would in the future, but as it improves, the need for government incentives would be decreasing and the deals would become less attractive for financial partners. Therefore, that was the right time for their HOW to take advantage of the benefits yielded through a PPA. Each HOW team, then, needs to determine the best time and the best financial mechanisms to implement any initiative.

Guidelines or Recommendations for HOW Teams' Sustainability "Best Practices"

Based on the HOW teams' lessons learned, it was possible to elaborate the following list of guidelines or recommendations for teams' "best practices" when undertaking sustainable initiatives at the HOW level: *1. Understand the Importance of the Message and Clearly Communicate It to the HOW Congregation; 2. Identify and Support HOW Team Volunteers' Motivations; 3. Maintain a Positive and Healthy Relationship with the HOW Congregation; 4. Pursue and Support Diversity of Volunteer Skills and Expertise; 5. Plan Bureaucratic and Legal Procedures at the Beginning of the Project Execution; 6. Invite Members of Other HOW Committees or Boards to be Part of the Team; 7. Provide Project's Ownership to Team Members; 8. Start Small to Build Knowledge and Organizational Capacity prior to Undertaking a Major Project; 9. Take Advantage of Timing and Opportunity for Implementing the Initiative, and 10. Capitalize on the Previous Experiences to Re-direct the Course of the Project Execution.*

1. Understand the importance of the message and clearly communicate it to the HOW congregation.

HOW leaders at all levels of the HOW structure need to communicate their message in a clear, solid and specific way in order to engage congregation members in supporting new sustainable initiatives, and to become willing to engage in the process of reducing the environmental footprint in their HOW and other dimensions of their daily lives. Also, as pointed

out by one interviewee, the HOW needs to become a living example of what they are asking congregation members to do in terms of sustainability and the reduction of their environmental footprint.

2. Identify and support HOW team volunteers' motivations.

Team leaders need to encourage and help organize the tasks towards conducting initiatives. Tapping into volunteer talents and skills, and directing the efforts towards a common sustainable goal would allow the team to benefit from that human potential available, and develop a sense of community by people's involvement in protecting Creation, adding a spiritual dimension to the efforts and contributing to achieve higher team effectiveness and efficiency.

3. Maintain a positive and healthy relationship with the HOW congregation.

The team and the team leadership need to be active in engaging the community and maintaining a close and fluid relationship with it. The team needs to be aware of the congregation's needs and concerns, be open to constructive criticism and suggestions, and draw congregation's support and consent for the development of the initiatives. The team can then provide the congregation their support, education about sustainable initiatives, the chance to be involved in the HOW mission, and the opportunity to enjoy a more sustainable HOW environment with the benefits of savings.

4. Pursue and support diversity of volunteer skills and expertise.

As stated by interviewees, the teams were formed by a group of people having different skills and expertise, in addition to varied interests and connections (networking). While some people hold technical or operational capabilities (such as construction-related or computer skills), others have proficiency and experience in business, accounting, management, or law and regulations. The entire team can then benefit from different backgrounds and expertise at different phases of the project execution.

5. Plan bureaucratic and legal procedures at the beginning of the project execution.

Planning ahead all the steps needed to accomplish a project can help the team to save time and resources, maintaining the project on schedule and on budget. Interviewees reported that if they could return to the beginning with the knowledge that they have now (acquired through the project development process), they would better prepare for the process of obtaining all the permits and complying with all the bureaucratic procedures, particularly in more complex projects like the solar PV installation. This planning would help to minimize delays related to diocese permits, town permits and utility interconnection. Having the necessary knowledge and the networks to sort these matters can be useful for the team.

6. Invite members of other HOW committees or boards to be part of the team.

When possible, it is recommendable to involve members from other groups within the HOW structure, such as Properties or Finance committees' members, to also volunteer in the team. Most of the interviewees reported the inclusion of members of other HOW committees in the team, and this has a series of advantages. For example, members of the Properties Committee can bring information needed about the permits required to install an array of solar panels at the HOW. Then, when the Properties Committee meets, this member, who has a firsthand knowledge about the details of the solar project, can personally bring the proposal to the next Properties Committee meeting and explain details of the matter. Some decisions can also be made without having to wait for the next Properties Committee to meet, or can be resolved more easily and faster with this team member's assistance, contributing to expedite the project's approval and execution.

7. Provide project's ownership to team members.

When taking ownership over the project, team members tend to feel more engaged and motivated to perform more effectively. According to interviewees, as facilitative leaders provide

team members with the opportunity to make decisions and be responsible for specific tasks, they tend to be more focused on completing such task and they have a sense of accomplishment and empowerment. Support and recognition of their efforts from team leadership and the entire team is fundamental to maintain task owners' enthusiasm and optimism.

8. Start small to build knowledge and organizational capacity prior to undertaking a major project.

Most of the solar PV projects considered in this research have been successful because their team had been able to complete easier and less costly projects earlier. Undertaking the more challenging and expensive solar initiative after they achieved other sustainable goals was fundamental to ensure that their group of volunteers had the time to consolidate their team and learned how to overcome challenges to achieve specific goals, which gave them a sense of accomplishment. This also contributed to empower team members.

9. Take advantage of timing and opportunity to implement an initiative.

Seizing the right opportunities for financing and execution at the right time was key to ensure success in some of the sustainable initiatives considered in this research. While in one case the team was offered a unique opportunity to become a solar installation showcase at no cost for an installer company, in most of the other cases teams took advantage of PPA offers from solar installer companies. These companies had also financing partners willing to invest in the projects due to encouraging government subsidies. Team members may become creative in thinking about different kinds of financing opportunities that may suit their own projects. An interviewee suggested "community solar" as an innovative mechanism to take advantage of solar PV energy and the savings potential that it offers for HOWs and their entire communities.

10. Capitalize on previous experiences to redirect the course of the project execution.

It is important for HOW teams and their leadership to be flexible and use previous and

ongoing experiences to adjust the planned execution of their project, if needed. Undertaking a sustainable initiative may imply undergoing a steep learning curve. It is important to capitalize on the team's experiences to move forward and be efficient in the use of resources as the team advances in the execution of the sustainable initiatives.

The main set of proposed guidelines or recommendations for the execution of sustainable initiatives are summarized in Table 10.

Table 10.

Proposed Guidelines for Conducting Sustainable Initiatives through HOW teams

Category	Description
<i>1. Understand the Importance of the Message and Clearly Communicate It to the HOW Congregation</i>	Leaders at all levels of the HOW organization are more likely to engage congregation members in becoming sustainable when the message is clear and consistent with the HOW's own sustainable practices and ethics.
<i>2. Identify and Support HOW Team Volunteers' Motivations</i>	Facilitative leaders in volunteer HOW teams need to support and stimulate team members' internal and external motivations to volunteer, such as doing "the right thing" to protect God's Creation and saving money for the congregation. The entire team needs to benefit from these motivations and concentrate their efforts on helping their HOWs' congregations.
<i>3. Maintain a Positive and Healthy Relationship with the HOW Congregation</i>	Support from the congregation is essential to team member's success. It is therefore important for HOW teams to demonstrate a sincere interest in improving the congregation's sustainability and engaging people in their initiatives.
<i>4. Pursue and Support Diversity of Volunteer Skills and Expertise</i>	Having volunteers with needed skills in different specific tasks, counting on knowledge to build plans, and learning from their previous experiences are keys to the success of teams' initiatives.
<i>5. Plan All Necessary Bureaucratic and Legal Procedures before Starting the Project's Execution</i>	In order to minimize time and resources in the project execution, it is appropriate to establish in advance the necessary legal and bureaucratic steps to be followed. For example: diocese permits, town

	permits and utility grid interconnection requirements among others.
<i>6. Invite Members of Other HOW Committees or Boards to be Part of the Team</i>	Engaging members of other committees and boards in the HOW and integrating them as part of the team, may help expedite decision-making and problem solving.
<i>7. Provide Project's Ownership to Team Members</i>	When leaders allow team members to take responsibility and ownership for specific tasks, team members may be empowered. Taking such responsibility also provides them a sense of accomplishment when acknowledged for their success.
<i>8. Start Small to Build Knowledge and Organizational Capacity prior to Undertaking a Major Project</i>	Developing small projects that need lower amounts of resources and time at the beginning of the team process can be beneficial, since it contributes to consolidate the team and prepares it for undertaking bigger endeavors in the future.
<i>9. Take Advantage of Timing and Opportunity to Implement an Initiative</i>	Taking advantages of the right opportunities for financing and execution at the right time is essential for success. For example: it may be signing a PPA agreement when government subsidies are available and private parties are interested in investing in solar PV installations.
<i>10. Capitalize on the Previous Experiences to Redirect the Course of the Project Execution</i>	HOW teams can benefit from their own and also from other teams' lessons learned when executing a sustainable initiative. They need to have the flexibility to adapt to change and modify the initial plan as needed.

Note: Information based on testimonials and observations

Verifying Research's Hypothesis and Closing Thoughts

One of the most noteworthy facts that attracted my attention was the strong momentum that the HOW communities included in this research have experienced in terms of solar PV installations and other sustainable initiatives. In addition to the teams, entire HOW congregations were aware of the need to be more environmentally conscious, and that is the main motive for

congregations to support HOW team's initiatives. More recently, Pope Francis' Encyclical published in 2015 had a significant impact on HOWs of different religious denominations, and influenced more cooperation among different HOWs, reinforcing the main purpose of interfaith organizations like MIP&L. As previously stated, most (but not all) of the HOWs included in this research maintained a connection with MIP&L. For example, the Pope's Encyclical including a call to cooperate and fight climate change was the focus of a meeting hosted at a Synagogue in the Boston Metro Area in October, 2015. More than 500 people from different religious denominations attended this interfaith gathering with the purpose of discussing the main points stated in the Pope's document. Many HOW team members believe that this important step in promoting interest and cooperation to fight climate change and protect Creation can help engage more congregations within the international interfaith community.

Besides the strong momentum that HOWs have been experiencing in terms of advancing initiatives to make them more sustainable and reducing their environmental footprint, an interesting discovery was the enthusiasm and dedication that people in HOW teams demonstrated in the process. It was surprising to discover the extent to what these teams, formed by groups of volunteers were motivated by strong convictions and deep commitment to a cause or mission. Those motivations stem from individuals' preexisting convictions and commitment to do right thing to protect God's Creation, or they are instilled by their HOW congregations. An interesting fact is that these individuals did not have any formal training on how to form and develop as a group. They formed spontaneously, moved by their need to do the right thing, to support their HOW congregations. As one participant pointed out: *"to do something that could transcend them and be available to the HOW for many years in the future."* Some team members experience their need to "give back to the community" and also be part of a group of

intelligent, capable people they can learn from by meeting periodically at the HOW. As an interviewee pointed out, the team does their work because they believe they have a mission, and they wish to do something meaningful that will stay relevant in the future. Others pointed out that it simply feels good to do things for the HOW, and they collaborate whenever they can.

At the time ONGOING team members had the opportunity to assess their team development processes, they also compared their latest team status to their initial status (when their projects started). They then reported that it was an enriching learning experience and they were able to build capacity within the HOW. According to an interviewee, the team was able to build capacity due to the fact that team members took the projects as a personal commitment or a personal mission.

Another significant discovery of this research was the deep respect and admiration for others demonstrated by team members. They also professed a great amount of respect and gratitude for their leader, who had been elected by the team members to lead them. This person was a true facilitative leader, engaging members in the decision-making process at all times. Some of the team members' comments stated that the leader was a very driven, thoughtful and organized person, who is always listening and leading.

Finally, this research allowed me to verify the research hypothesis, stated as follows: *The improvement of interpersonal processes such as communication, coordination, cooperation, collaboration, conflict resolution, cohesion and trust, can improve team dynamics and performance with the support of the HOW team's leader, who is also able to influence team members' enthusiasm and commitment to protect Creation, and guide this "self-managed" team towards being successful, approaching the "high performance" team model. It is possible then to enhance the likelihood of success through enhancing team efficiency (maximization of the*

cost/benefit relationship in terms of money, human resources and time) and effectiveness (the capacity of achieving the team's goals), when implementing sustainable practices at the HOW level.

In summary, it was possible to verify that the influence of the leader with facilitative skills was fundamental in helping the team improve the interpersonal processes towards enhancing team dynamics, and having team members motivated and committed to achieve their goals, improving effectiveness, and helping allocate resources and direct efforts towards achieving their goals faster and more efficiently. The data confirms that HOW team members valued the way their leader conducted the team by enabling, guiding, making other people comfortable through creating a healthy environment, explaining goals, drawing support from the community, managing change efficiently, encouraging people's opinions, showing recognition for team members' contributions, giving feedback in a timely and equitable manner, addressing issues early in the process, providing authority to make decisions, and helping develop passion for the team work. However, it can be concluded that leaders with facilitative skills were successful because they counted on a very motivated and proactive group of volunteers who helped the team experience to be successful.

Limitations of this Research

This research was not intended for replication, since it was applied to a specific dataset of HOWs, selected because they were successful in completing sustainable initiatives. It was intended to provide insights about the elements that explained HOW teams' success and finally, a series of recommendations and guidelines for sustainability "best practices" through volunteer teams in HOWs. The data allowed to obtain expected results, despite the small dataset consisting of N = 9 in the COMPLETED Case Study, and in N = 7 in the ONGOING Case study.

In addition, while it was possible to verify the effectiveness of achieving goals, the efficiency (cost/benefit relationships in terms of financial resources or human efforts) was not numerically verified. Due to matters of privacy and especially confidentiality, it was not possible to have access to all the documents related to the financial statements or the PPA agreements, or to all the billing statements in order to prove actual savings. However, it was not the purpose of this research to offer details about financial matters.

This research included a set of selected HOWs that positively proved to be successful in implementing sustainable initiatives in the COMPLETED case study. However, the team that was included in the ONGOING case study was conducting three projects at the time of the data collection, and the results were still uncertain at the time this research was being designed. However, it presented potential for success, as it could be noticed after my preliminary interactions with the team, and in the end, they proved to be a successful team.

It is important to notice that the findings of this research transcend one type of religious faith, since faith denomination was not taken into account when selecting the participant HOWs and therefore, it was not a decision factor. Even when faith denomination may have potentially been a factor to determine success, exploring such influence was beyond the scope of this research.

In addition, this research was applied to HOW self-managed teams counting on the support of leaders with facilitative skills in volunteer-based and faith-based organizations. Those teams successfully plan, conduct and complete sustainable initiatives to benefit their congregations. In this research, the interpersonal processes were described by Yeatts and Hyten (1997) were used to assess and analyze the interactions influencing team dynamics. These team members and their leaders had not received any formal training based on the literature on team

development, and they formed organically within the volunteer-based HOW congregation structure.

The conclusions of this research are intended to provide the aforementioned set of guidelines to HOW teams developing sustainable initiatives. These guidelines may be applicable and improve the likelihood of success for some teams in HOWs or other organizations, but not for other teams immersed in different circumstances. Additionally, some guidelines would be more applicable or relevant to specific HOW teams than others. This consideration would anticipate variations due to the culture of different religious organizations other than the ones that were randomly selected for this work. As already specified, religious denomination as a factor of success was not explored in this research. In summary, the set of proposed guidelines is not intended to be prescriptive or guarantee success in all HOW cases. It was elaborated based on the lessons learned and recommendations from a specific set of successful HOWs, and therefore it should be used as a reference.

Recommendations for Future Research

For future research it is recommended that this study:

- Is repeated in larger datasets (at least $N = 20$) and in a larger number of HOWs, contemplating completed and ongoing sustainable projects, in order to verify if more key elements for success can be found, and explore more deeply the elements of team dynamics including facilitative leadership. This can be done with the purpose of enhancing reliability, serving as the basis for future replication.
- Is performed in a more diverse group of HOW faith denominations, in order to determine whether the faith orientation may be an influential factor in HOW team success.

- Is applied to for-profit, pay-based, non-religious or businesses organizations, and other than self-managed teams, and observe whether the role of the leader would be effective in leading the team towards success, or whether other type of leadership would be needed.
- Contemplates an exercise about ongoing case studies involving formal training about team development received by leadership and the team, in order to observe whether this knowledge would be significant in statistically improving the quality of the team outcomes. The study would include a significant sample of teams described as follows: 1. a control team in which no advice to the leader or team members is provided before the project starts; 2. a group of teams in which advice is provided to the leader prior to the start of the project; 3. a group of teams in which advice is provided to team members before starting, and 4. a group of teams in which advice is provided separately to both the leader and the team before the initiative starts. Ideally, this study should include more than one team in each group (for example, four teams for each group), contributing to obtain a significant sample.
- Finally, it is recommended that this research is applied to HOW teams that have not necessarily been successful, and evaluate the reasons for not being successful. In other words, at the time of research design, the selection criteria for participant HOWs should change to other than “successful HOW team.”

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Appendices

Appendix A: Survey to COMPLETED Case Study



Please rate the following Inter-Personal Processes in your Team

Inter-Personal Processes in your Team						
	EXCELLENT	VERY GOOD	MODERATE	NEUTRAL	POOR	I DON'T KNOW
COMMUNICATION (among all team members, incl. leadership)						
COORDINATION (performing tasks in an organized manner)						
COOPERATION (among all team members, incl. leadership)						
COLLABORATION (among all team members, incl. leadership)						
COHESION (the degree to what members felt attracted to the team and compelled to stay in it)						
CONFLICT RESOLUTION (team members worked out differences to find a positive solution)						
TRUST (among all team members, incl. leadership)						

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

COMPLETE Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Part 1: Your House of Worship (HOW) Sustainable Project

1. How did the sustainable project initiative start?

- ☐ Consensus ☐ Leadership set agenda ☐ Congregation member suggestion ☐ Business proposal to HOW ☐ Other _____

2. How did the team communicate with the Governing Body (HOW Authorities) about the project?

- ☐ Regular meetings ☐ Ad-hoc meetings ☐ Written communications ☐ Oral/Informal communications ☐ Other _____

3. How OFTEN did the team communicate with the Governing Body about the project?

- ☐ Very frequently ☐ Frequently ☐ Not frequently ☐ Few times ☐ Not at all

4. How much support did your team receive from the Governing Body for this project?

- ☐ Significant ☐ Acceptable ☐ Moderate ☐ Little ☐ No support

5. How did the team bring recommendations to the Governing Body?

- ☐ Team & Gov. Body regular meetings ☐ Mailing lists (on a daily basis) ☐ Gov. Body requested regular reporting ☐ Team requested special meetings ☐ Other _____

Part 1: Your House of Worship Sustainable Project (cont'd)

6. How did the Governing Body act on recommendations?

☐ Extremely fast ☐ Fast ☐ Moderately fast ☐ Slow ☐ No action

7. If the Governing Body did not act on recommendations, why was it?

8. How did the members of your team help you improve your knowledge and expertise during the project development?

☐ Significantly ☐ Acceptably ☐ Neutral ☐ Somehow ☐ Not at all



Part 1: Your House of Worship Sustainable Project (cont'd)

9. What were the major obstacles to the project's completion?

<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>

10. How did team leadership and team members react in the face of uncertainties, obstacles or situations that posed some type of risk to the project completion, and how did they overcome them? (Please elaborate)

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Part 2: Team Dynamics and Performance

1. Did you know the members of your team?

- ☐ All of them ☐ Most of them ☐ Some of them ☐ Few of them ☐ None of them

2. Team membership changed:

- ☐ Very frequently ☐ Frequently ☐ Not frequently ☐ Few times ☐ No changes at all

3. How long has your team worked together (for this or other projects)?

- ☐ More than 5 years ☐ 2-5 years ☐ 1-2 years ☐ Less than 1 year ☐ Other (specify) -----

4. How many projects have you completed together as a team (please specify)?

5. How strongly did your team need COMMUNICATION and COORDINATION?

- ☐ Very strongly ☐ Strongly ☐ Moderately strongly ☐ Slightly ☐ Not likely

Part 2: Team Dynamics and Performance (cont'd)

6. The team had:

☐ Too many members ☐ The right # of members ☐ Too few members ☒ I don't know ☐ Other -----

7. The team had talent, skills and experience for the type of work that was done.

☐ Exceeding ☐ Enough ☐ Not enough ☐ I don't know ☐ Other -----

8. How clear were the team's goals and outcomes?

☐ Extremely clear ☐ Very clear ☐ Moderately clear ☐ Not too clear ☐ Unclear or confusing

9. Obtaining advice and guidance from coaches or leaders when needed was:

☐ Extremely easy ☐ Very easy ☐ Moderately easy ☐ Difficult ☐ Other -----

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

COMPLETE Case Study

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Carolina Saiz
Antioch University New England

Part 2: Team Dynamics and Performance (cont'd)

10. Obtaining technical support and material resources when needed was:

- ☐ Extremely easy ☐ Very easy ☐ Moderately easy ☐ Sometimes difficult ☐ Always difficult

11. Working on this team was:

- ☐ Extremely satisfying ☐ Very satisfying ☐ Neutral ☐ Sometimes frustrating ☐ Always frustrating

12. How often did team members socialize outside the work environment?

- ☐ Always ☐ Most of the time ☐ Sometimes ☐ Few times ☐ Never



Please indicate how much you agree with the following statements:

Part 2: Team Dynamics and Performance (cont'd)						
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. The <u>GOALS</u> of the project were specified by the Church Authorities (or Governing Body).						
.The <u>PROCEDURES</u> were decided by the team members.						
. My team should have met more often than it did.						
. The members of my team shared responsibilities fairly with each other.						
. The members of my team treated each other with respect and consideration.						
. My team met its deadlines most of the time.						
. My team acted quickly on its decisions.						
. I would highly recommend this team to successfully complete a sustainable project.						
. Team members took initiatives to constructively resolve problems arising from within the group.						
. My team offered constructive and timely criticism.						
. Team members were motivated to have the team succeed.						

Part 2: Team Dynamics and Performance (cont'd)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
Team members implemented innovative ways to perform tasks successfully.						
Team members shared their knowledge and expertise with one another.						
I felt a sense of personal satisfaction when the team did well.						
Team members learned lessons well from work experiences.						
I learned a great deal from my work on this team.						
Along the process, the team produced high quality work.						
Producing high quality work was critical to me.						
Meeting deadlines and respecting timelines was critical to me.						
If I were troubled by change, I could have safely confided my concerns to and ask help from my teammates and leadership.						
There was room for improvement in team work.						
I had no problems with cultural differences and I was able to adapt easily.						
It was clear what UNNACEPTABLE member behavior was.						
The longer we worked together, THE BETTER we did.						
The longer we worked together, THE WORSE we did.						

Part 3: Team Leadership: Leaders among Team Members

1. Team leadership offered team members constructive and timely criticism:

☐ Extremely well ☐ Very well ☐ Neutral ☐ Not well ☐ Poorly

2. Team leadership handled criticism towards him/her:

☐ Extremely well ☐ Very well ☐ Neutral ☐ Not well ☐ Poorly

3. Team leadership was:

☐ Extremely available ☐ Very available ☐ Neutral ☐ Rarely available ☐ Unavailable

4. Team leadership made decisions:

☐ Extremely quickly ☐ Quickly ☐ Neutral ☐ Slightly slowly ☐ Very slowly

5. How comfortable were you letting your team's leadership know about your concerns?

☐ Extremely comfortable ☐ Very comfortable ☐ Comfortable ☐ Slightly uncomfortable ☐ Very uncomfortable

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

COMPLETE Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Part 3: Team Leadership: Leaders among Team Members (cont'd)

6. How effective was leadership when handling problems arising within the team?

☐ Extremely effective ☐ Very effective ☐ Effective ☐ Somewhat effective ☐ Ineffective

7. Is there anything that team leadership could have done differently? (Please elaborate)

Please indicate how much you agree with the following statements:

Part 3: Team Leadership: Leaders among Team Members (cont'd)						
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. My team leadership provided motivation to all team members.						
. I trusted my team leadership.						
. I felt comfortable with the level of guidance provided by my team leadership.						
. Team leadership addressed potential issues/conflicts early on in the process.						
. Team leadership recognized the value of people having different talents and skills.						
. Team leadership managed change efficiently.						
. Team leadership encouraged people to communicate their opinions.						
. Team leadership valued and recognized my individual contributions.						
. Team leadership contributed to the development of a talented team.						
. Team leadership engaged team members in planning.						
. Team leadership encouraged team members' ownership by delegating.						



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Part 3: Team Leadership: Leaders among Team Members (cont'd)						
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. Team leadership provided authority for members to make decisions.						
. Team leadership was able to build commitment for ideas.						
. Team leadership communicated a project vision.						
. Team leadership helped others develop passion for their project work.						
. Team leadership helped the team clarify the project's objectives.						
. Team leadership involved team members in decisions.						
. Team leadership gave feedback in a timely and equitable manner.						
. Team leadership involved team members' opinions at the time of making decisions.						
. Team leadership used the Congregation's and teams' resources effectively, with nearly no waste.						
. Team leadership helped others by providing constructive criticism when a mistake was made.						

Sustainable Houses of Worship (SHOWs)
Keys to Successful Project Developments

COMPLETE Case Study
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Carolina Saiz
Antioch University New England



/

Part 3: Team Leadership: Leaders among Team Members (cont'd)						
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. Team leadership was very reliable.						
. I was very satisfied with my team's leadership.						
. My leadership really led the team to achieve the project's goals.						
. Team leadership was able to efficiently draw support from the community.						
.Team leadership clearly explained to all members the organization's goals, objectives and plans.						
. Team leadership focused on creating a healthy, comfortable work environment.						

Other Comments (Optional):

Appendix B: Survey to ONGOING Case Study

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

ONGOING Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Please rate the following Inter-Personal Processes in your Team

Inter-Personal Processes in your Team						
	EXCELLENT	VERY GOOD	MODERATE	NEUTRAL	POOR	I DON'T KNOW
COMMUNICATION (among all team members, incl. leadership)						
COORDINATION (performing tasks in an organized manner)						
COOPERATION (among all team members, incl. leadership)						
COLLABORATION (among all team members, incl. leadership)						
COHESION (the degree to what members felt attracted to the team and compelled to stay in it)						
CONFLICT RESOLUTION (team members worked out differences to find a positive solution)						
TRUST (among all team members, incl. leadership)						

Part 1: Your House of Worship (HOW) Sustainable Project

1. How did the sustainable project initiative start?

- ☐ Consensus ☐ Leadership set agenda ☐ Congregation member suggestion ☐ Business proposal to HOW ☐ Other _____

2. How does the team communicate with the Governing Body (HOW Authorities) about the project?

- ☐ Regular meetings ☐ Ad-hoc meetings ☐ Written communications ☐ Oral/Informal communications ☐ Other _____

3. How OFTEN does the team communicate with the Governing Body about the project?

- ☐ Very frequently ☐ Frequently ☐ Not frequently ☐ Few times ☐ Not at all

4. How much support does your team receive from the Governing Body for this project?

- ☐ Significant ☐ Acceptable ☐ Moderate ☐ Little ☐ No support

5. How does the team bring recommendations to the Governing Body?

- ☐ Team & Gov. Body regular meetings ☐ Mailing lists (on a daily basis) ☐ Gov. Body requests regular reporting ☐ Team requests special meetings ☐ Other _____

Sustainable Houses of Worship (SHOWs)

ONGOING Case Study

Carolina Saiz
Antioch University New England

Keys to Successful Project Developments

=SURVEY=

Part 1: Your House of Worship Sustainable Project (cont'd)

6. How does the Governing Body act on recommendations?

☐ Extremely fast

☐ Fast

☐ Moderately fast

☐ Slow

☐ No action

7. If the Governing Body does not act on a recommendation, why is that? (Feel free to mention a specific example).

8. How do the members of your team help you improve your knowledge and expertise through the project development?

☐ Significantly

☐ Acceptably

☐ Neutral

☐ Somehow

☐ Not at all



Part 1: Your House of Worship Sustainable Project (cont'd)

9. So far, what have been the major obstacles to the project's completion? How did you overcome them?

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

10. How do team leadership and team members react in the face of uncertainties, obstacles or situations that pose some type of risk to the project completion, and how have they overcome them so far? (Please elaborate)

Part 2: Team Dynamics and Performance

1. Do you know the members of your team?

- ☐ All of them ☐ Most of them ☐ Some of them ☐ Few of them ☐ None of them

2. Team membership changes:

- ☐ Very frequently ☐ Frequently ☐ Not frequently ☐ Few times ☐ No changes at all

3. How long has your team worked together (for this or other projects)?

- ☐ More than 5 years ☐ 2-5 years ☐ 1-2 years ☐ Less than 1 year ☐ Other (specify) -----

4. So far, how many projects have you completed together as a team (please specify)?

5. How strongly does your team need COMMUNICATION and COORDINATION?

- ☐ Very strongly ☐ Strongly ☐ Moderately strongly ☐ Slightly ☐ Not likely

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

ONGOING Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Part 2: Team Dynamics and Performance (cont'd)

6. The team has:

☐ Too many members ☐ The right # of members ☐ Too few members ☐ I don't know ☐ Other -----

7. The team has talent, skills and experience for the type of work that is being done.

☐ Exceeding ☐ Enough ☐ Not enough ☐ I don't know ☐ Other -----

8. How clear are the team's goals and outcomes?

☐ Extremely clear ☐ Very clear ☐ Moderately clear ☐ Not too clear ☐ Unclear or confusing

9. Obtaining advice and guidance from coaches or leaders when needed is:

☐ Extremely easy ☐ Very easy ☐ Moderately easy ☐ Difficult ☐ Other -----

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

ONGOING Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Part 2: Team Dynamics and Performance (cont'd)

10. Obtaining technical support and material resources when needed is:

- ☐ Extremely easy ☐ Very easy ☐ Moderately easy ☐ Sometimes difficult ☐ Always difficult

11. Working on this team is:

- ☐ Extremely satisfying ☐ Very satisfying ☐ Neutral ☐ Sometimes frustrating ☐ Always frustrating

12. How often do team members socialize outside the work environment?

- ☐ Always ☐ Most of the time ☐ Sometimes ☐ Few times ☐ Never

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

ONGOING Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Please indicate how much you agree with the following statements:

Part 2: Team Dynamics and Performance (cont'd)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. The <u>GOALS</u> of the project are specified by the Church Authorities (or Governing Body).						
. The <u>PROCEDURES</u> are decided by the team members.						
. My team should meet more often than it does.						
. The members of my team share responsibilities fairly with each other.						
. The members of my team treat each other with respect and consideration.						
. My team meets its deadlines most of the time.						
. My team acts quickly on its decisions.						
. I would highly recommend this team to successfully complete a sustainable project.						
. Team members take initiatives to constructively resolve problems arising from within the group.						
. My team offers constructive and timely criticism.						
. Team members are motivated to have the team succeed.						

Sustainable Houses of Worship (SHOWs)

ONGOING Case Study

Carolina Saiz
Antioch University New England

Keys to Successful Project Developments

=SURVEY=

Part 2: Team Dynamics and Performance (cont'd)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
Team members implement innovative ways to perform tasks successfully.						
Team members share their knowledge and expertise with one another.						
I feel a sense of personal satisfaction when the team does well.						
Team members learn lessons well from work experiences.						
I learn a great deal from my work on this team.						
Along the process, the team produces high quality work.						
Producing high quality work is critical to me.						
Meeting deadlines and respecting timelines is critical to me.						
If I am troubled by change, I can safely confide my concerns to and ask help from my teammates and leadership.						
There is room for improvement in team work.						
I have no problems with cultural differences and I am able to adapt easily.						
It is clear what UNNACEPTABLE member behavior is.						
The longer we work together, THE BETTER we do.						
The longer we work together, THE WORSE we do.						

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

ONGOING Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Part 3: Team Leadership: Leaders among Team Members

1. Team leadership offers team members constructive and timely criticism:

☐ Extremely well ☐ Very well ☐ Neutral ☐ Not well ☐ Poorly

2. Team leadership handles criticism towards him/her:

☐ Extremely well ☐ Very well ☐ Neutral ☐ Not well ☐ Poorly

3. Team leadership is:

☐ Extremely available ☐ Very available ☐ Neutral ☐ Rarely available ☐ Unavailable

4. Team leadership makes decisions:

☐ Extremely quickly ☐ Quickly ☐ Neutral ☐ Slightly slowly ☐ Very slowly

5. How comfortable are you letting your team's leadership know about your concerns?

☐ Extremely comfortable ☐ Very comfortable ☐ Comfortable ☐ Slightly uncomfortable ☐ Very uncomfortable

Part 3: Team Leadership: Leaders among Team Members (cont'd)

6. How effective is leadership when handling problems arising within the team?

☐ Extremely effective

☐ Very effective

☐ Effective

☐ Somewhat effective

☐ Ineffective

7. Is there anything that team leadership could do differently? (Please elaborate)

Sustainable Houses of Worship (SHOWs)

Keys to Successful Project Developments

ONGOING Case Study

=SURVEY=

Carolina Saiz
Antioch University New England

Please indicate how much you agree with the following statements:

Part 3: Team Leadership: Leaders among Team Members (cont'd)						
Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. My team leadership provides motivation to all team members.						
. I trust my team leadership.						
. I feel comfortable with the level of guidance provided by my team leadership.						
. Team leadership addresses potential issues/conflicts early on in the process.						
. Team leadership recognizes the value of people having different talents and skills.						
. Team leadership manages change efficiently.						
. Team leadership encourages people to communicate their opinions .						
. Team leadership values and recognizes my individual contributions.						
. Team leadership contributes to the development of a talented team. .						
. Team leadership engages team members in planning.						
. Team leadership encourages team members' ownership by delegating.						

Sustainable Houses of Worship (SHOWs)

ONGOING Case StudyCarolina Saiz
Antioch University New England

Keys to Successful Project Developments

=SURVEY**Part 3: Team Leadership: Leaders among Team Members (cont'd)**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. Team leadership provides authority for members to make decisions.						
. Team leadership is able to build commitment for ideas.						
. Team leadership communicates a project vision.						
. Team leadership helps others develop passion for their project work.						
. Team leadership helps the team clarify the project's objectives.						
. Team leadership involves team members in decisions.						
. Team leadership gives feedback in a timely and equitable manner.						
. Team leadership involves team members' opinions at the time of making decisions.						
. Team leadership uses the Congregation's and teams' resources effectively, with nearly no waste.						
. Team leadership helps others by providing constructive criticism when a mistake is made.						

Sustainable Houses of Worship (SHOWs)

ONGOING Case StudyCarolina Saiz
Antioch University New England

Keys to Successful Project Developments

=SURVEY**Part 3: Team Leadership: Leaders among Team Members (cont'd)**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I Don't Know
. Team leadership is very reliable.						
. I am very satisfied with my team's leadership.						
. My leadership really leads the team to achieve the project's goals.						
. Team leadership is able to efficiently draw support from the community.						
. Team leadership clearly explains to all members the organization's goals, objectives and plans.						
. Team leadership focuses on creating a healthy, comfortable work environment.						

Other Comments (Optional):

Appendix C: Semi-structured Interview Questionnaire to COMPLETED Case Study

Interview Questionnaire Template
<p>HOW:</p> <p>Participant:</p> <p>Date:</p> <p>*1. How did the sustainable idea start within the Congregation? Was it part of a cascading effect? You received a business proposal from a solar company? Other?</p> <p>*2 Was it a suggestion of MIP&L? Did they do an initial assessment?</p> <p>*3. How long (total) did it take from the beginning (decision, first meeting, first action, etc.) to commissioning?</p> <p>*4. How many people were involved in the project besides you? Did you get any help?</p> <p>*5. Were you (and others) involved in other projects or activities at the Church? Have you completed other projects with the same people?</p> <p>*6. How long had you been working together as a group?</p> <p>*7. Were all volunteers, and members of the Congregation?</p> <p>*8. What company executed the project?</p> <p>*9. What kind of agreement did you do and how did you get funding to execute the project?</p> <p>*10. How large is your system (kW). (Solar PV only)</p> <p>*11. Does it cover all your Church's/Congregation's electricity needs? Are you planning to make an upgrade? (Solar PV only)</p> <p>*12. Did you have to make investments to improve the building's structure (for example on the roofs) previous to the installation? (Solar PV only)</p> <p>*13. How was the process with the Utility Company (interconnection)? Please elaborate. (Solar PV only)</p> <p>*14. What were the major obstacles you found in the process and how did you overcome them?</p> <p>*15. What were the major milestones of this project?</p> <p>*16. Have you experienced any problems (technical or other) after commissioning? (Solar PV only)</p>

- *17. If you were to change anything in your group/process/relationship with Church governing body, what would that be? What that ONE thing would be?
- *18. How do you feel the projects are developed now compared to how they were in the beginning?
- *19. Question to be asked in two different ways: Considering this and other previous projects: how successful you (and your group) and other people at the Congregation felt your sustainability efforts are and how can you tell? Or how much people feel they are reducing the environmental impact, or their environmental footprint and how can you tell?
- *20. Do you see that people in the Congregation bring these ideas home? (For example, they want to install solar panels in their houses).
- *21. What is your background as you see yourself as being part of this group?
- *22. Why do you like to volunteer for this particular congregation/team? Why do you do this in the first place? What motivates you?
- *23. What or who inspired you the most to do this work? Without this/this person I would be here or doing this.
- *24. Other comments (Optional).

Appendix D: Questionnaire to ONGOING Case Study



Second Survey Additional Questions (Please use the reverse of each page or more paper if needed)

- **A. Why do you like to volunteer for this Organization/Cause/Congregation? (Why are you doing this in the first place?)**

- **B. What/Who inspires you the most to do this work? (Without *THIS/THIS PERSON*, you will not be here)**



➤ **C. What are you motivations for being part of this particular Team? Would you do it all over again with the SAME team?**

➤ **D. What is your background? (*How do you see yourself as part of this team?*)**

➤ **E. Are you leading a special project?**

No ____ Yes ____ (*Please specify*)



- ***F. How well do you think team projects are being developed now compared to how well they were in the beginning? (Please elaborate. Use the reverse of this page if needed)***

- ***G. If you could change anything about the team/process/relationship with the Church's Governing Body, or other, what would that ONE thing be? (For example, ONE thing that you know now, but that you wish you to had known when you started)***



- **H. Question to be asked in 2 ways: 1) Considering all projects developed so far, how successful you, your team and other people in the Congregation think your sustainability efforts are, and how can you tell? OR 2) How much do you all think you are reducing your environmental impact (or environmental footprint), IF SO, and how can you tell?** (Please elaborate. Use the reverse of this page if needed)

- **I. Do you see people in your Congregation (including yourself) bringing these ideas home?** (For example, installing energy efficient lighting fixtures or windows, or improving insulation). (Please elaborate. Use the reverse of this page if needed)

- **J. Please choose one of the recently developed projects and enumerate its major milestones.** (For example: 1. Idea, 2. Approval by X, Y and Z, 3. Contractor choice, ..., n. Completion).

Appendix E: Informed Consent for COMPLETED Case Study Research Participants

Informed Consent

Research Subject: *“Opportunities for Conversion to More Sustainable Practices by Houses of Worship through Team Performance Enhancing Strategies that Include Facilitative Leadership”*

Dear Sr. or Madam,

My name is Carolina Saiz, and I am a student in the PhD in Environmental Studies program at Antioch University New England, located in Keene, NH. I am researching about how groups of people work as teams, guided by their team leaders to make Houses of Worship (HOWs) “greener.” The “greening” may consist of energy conservation practices, recycling or installing solar energy. These projects can help congregations and their communities foster healthier environments and human wellbeing, while saving money.

I am contacting you because you have participated in successfully completing one of those sustainable project at the HOW level, working with other community members in the past. The purpose of this research is to understand how the dynamics in your team and the relationship with leadership worked in a way that it was possible to carry on the “greening” process in your HOW. That is why I am asking your help to obtain information for my research. This research will start by analyzing completed projects like yours that have been successful in the process of “greening” HOWs. I would like you to respond to a survey that has been designed for my data collection. As part of my research, I will also survey other members of your team and other HOW “greening” projects, as well as observing an ongoing project for approximately one year, in order to understand team dynamics. As a way to thank you for your participation, I will provide you with a copy of the research results and my set of conclusions and suggestions that will hopefully be helpful to future projects in your organization.

I want to clarify that your participation does not likely pose any risk or harm to you. Also, your participation is voluntary and you can discontinue it at any time. Your identity will be kept confidential, and I will be the only person to have access to it. The materials that I produce (in printed and in electronic formats) will also be kept confidential in a place only known to me for five years after the publication of the doctoral dissertation. Then, they will be destroyed.

If you have any questions about this research, you may contact Carolina Saiz at telephone number [REDACTED] or via e-mail at [REDACTED]. If you have any questions about your rights as a research participant, you may contact my Academic Advisor at Antioch University New England, Dr. James Gruber, PhD, at telephone number [REDACTED] or via e-mail at [REDACTED]. Antioch University New England is located at 40 Avon St., Keene, NH, 03431.

I thank you very much for your attention and your kind cooperation.

Respectfully,

Carolina Saiz
PhD in Environmental Studies Program Student
Antioch University New England - 40 Avon St. - Keene, NH - 03431
[REDACTED]

By signing below, I confirm that I have read and understood the terms of this Informed Consent, and I agree to participate in this research.

_____	_____	_____
<i>Print Name</i>	<i>Signature</i>	<i>Date</i>

Appendix F: Informed Consent for ONGOING Case Study Research Participants

Informed Consent

Research Subject: *“Opportunities for Conversion to More Sustainable Practices by Houses of Worship through Team Performance Enhancing Strategies that Include Facilitative Leadership”*

Dear Sr. or Madam,

My name is Carolina Saiz, and I am a student in the PhD in Environmental Studies program at Antioch University New England, located in Keene, NH. I am researching about how groups of people work as teams, guided by their team leaders to make Houses of Worship (HOWs) “greener.” The “greening” may consist of energy conservation practices, recycling or installing solar energy. These projects can help congregations and their communities foster healthier environments and human wellbeing, while saving money.

I am contacting you because you are currently participating in one of those sustainable projects at the HOW level, working with other Congregation members. The purpose of this research is to understand how the dynamics in your team and the relationship with leadership works in a way that it is possible to carry on the “greening” process in your HOW. That is why I am asking your help to obtain information for my research. Your participation would involve allowing me to access to your project team’s interactions, such as non-confidential documentation, mailing lists, team meetings, and all kinds of events and interactions that are relevant to the project, so I will be able to observe the team project’s process for weeks, months or up to 1 year, as needed. In addition, I would also need team members to complete a survey a pair of times (one by the beginning of our interaction, and the other towards the end of the process), and meet with me three times during the entire process, at the team’s convenience. Those meetings may happen right after any of your regular meetings or gatherings, and the meetings will be used as information “check-up” and additional data collection mechanisms. All

the data will be treated as a “group data,” so to preserve each individual’s identity. Each survey’s data will remain anonymous. As a way to thank you for your participation, I will provide you with a copy of the research results and my set of conclusions and suggestions that may hopefully be helpful for future projects in your organization. I want to clarify that your participation does not likely pose any risk or harm to you. Also, your participation is voluntary and you can discontinue it at any time. Your identity will be kept confidential, and I will be the only person to have access to it. The materials that I produce (in printed and in electronic formats) will also be kept confidential in a place only known to me for five years after the publication of the doctoral dissertation. Then, they will be destroyed.

If you have any questions about this research, you may contact Carolina Saiz at telephone number [REDACTED] or via e-mail at [REDACTED]. If you have any questions about your rights as a research participant, you may contact my Academic Advisor at Antioch University New England, Dr. James Gruber, PhD, at telephone number [REDACTED] or via e-mail at [REDACTED]. Antioch University New England is located at 40 Avon St., Keene, NH, 03431.

Thank you very much for your attention and your kind cooperation.

Respectfully,

Carolina Saiz
PhD in Environmental Studies Program Student-
Antioch University New England - 40 Avon St. - Keene, NH - 03431
[REDACTED]

By signing below, I confirm that I have read and understood the terms of this Informed Consent, and I agree to participate in this research.

Print Name

Signature

Date

