

COMMUNICATION AS A PREDICTOR OF ENGAGEMENT AND VALUE IN DIGITAL  
WORK ENVIRONMENTS

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## Chapter 1: Introduction

According to the Gallup State of the American Workforce Report of 2016 survey of more than 15,000 individuals, 43 percent of Americans reported they spent at least some time working remotely (Chokshi, 2017). Working remotely allows flexibility for individuals to integrate their personal and professional goals. However, it also comes with challenges. Remote workers, in particular, struggle with workplace engagement. Many of these remote employees never sit in the same room as their colleagues and supervisors, which may cause a disconnect between these remote workers and their organizations.

According to the Gallup Research Report of 2013, U.S. businesses lose between \$270 and \$343 billion a year from actively disengaged employees (Kariuki, 2015). These disengaged employees cause problems for their companies due to their lowered productivity and decreased satisfaction. Remote workers experience disengagement at a higher rate than employees who work in person, as remote workers do not have the day-to-day social interaction with their colleagues and supervisors that those who work in person do. Over time, remote workers often feel lonely and isolated.

However, organizations can work to intentionally address these issues. First, improving internal communication can help these remote workers to feel more socially connected. Remote workers need to be reminded of their value and shown how they are making an impact, especially because they rarely get to see the end result of their work. Colleagues and supervisors must reach out to these employees often, reassuring them they have not been forgotten and that they are a valued member of their team. In

this thesis, the term *value* refers to remote employees' feelings of inclusion, appreciation, and integration within their organizations.

Others have studied how internal communication affects employee engagement. For example, Mishra, Boynton & Mishra (2014) assert that strong internal communication in organizations creates a culture of transparency, trust, and commitment, which helps to engage employees. Many researchers have also indicated that organizations with remote workers must build trust among workers (Akkirman & Harris, 2004; Cascio, 2000; Handy, 1995; Holton, 2001; McCready, Lockhart & Sieyes, 2001; Nilles, 1998; Staples, 2001a,b), which requires frequent (Staples, 2001a) and high-quality communication (Akkirman & Harris, 2004; Jensen, 2003; Nilles, 1998). Finally, Akkirman and Harris (2004) found that managerial support and trust between managers and workers are the keys to the success of digital work environments. Both of these depend on effective communication (Akkirman & Harris, 2004).

However, little to no research exists that explores employee preference for message medium, content, and detail in order to meet employee needs. Individual characteristics might also influence employee perceptions and preferences when it comes to the communication in their organization. Some research exists on how organizations transition employees from a traditional setting to a remote one, but little research exists regarding the ongoing communication between remote workers and their organizations. Additionally, research has not explored the technological tools remote employees prefer for communication with their organizations.

The main goal of this thesis is to form a better understanding of what successful internal communication practices in digital environments can do to engage employees.

Employee engagement is defined as the intensity with which an employee feels immersed and interested in their daily activities, and employee engagement is often affected by the methods of internal communication an employee's organization uses. Internal communication is defined as the interactions and relationships among all individuals affiliated with an organization.

Analyzing organizational communication for remote workers requires consideration of current trends that affect communication methods. Millennials have now become major players in the workforce, and these employees demand an increase in openness and free flow of information. Thus, organizations must restructure their communication methods to fit this requirement. Businesses have allowed employees to affect their companies by asking employees for feedback and spending more time ensuring employees are content in their roles. This can occur through feedback sessions, surveys, and one-to-one quarterly meetings. Many companies have realized the importance of human capital and recognize that employee engagement is vital in organizational success and now try to move employees into positions they enjoy and thrive in, especially if they find out employees are unhappy in their current roles. Companies recognize they would rather engage currently disengaged employees than lose their talents to other organizations.

These changes are even more relevant to remote workers. Because these workers are not present in the office setting, two-way communication that occurs daily between team members and managers occurs less frequently or not at all for individuals who work remotely. Instead, remote workers often receive emails — a one-way communication method — which may make them feel less connected and lacking in

communication. Although many more technological tools are available today, face-to-face communication remains valued and is sometimes the preferred method of communication in the workplace.

Although companies are currently emphasizing communication, it is important that organizations understand that more communication is not always better. A more strategic approach to communication to discuss the necessary and important concepts can keep organizations from over-communicating. Thus, organizations must strike a balance between providing enough information to keep the trust of employees and providing too much information, which can result in information overload.

Thus, the aims of this thesis are twofold: 1) to investigate employee perspectives on how communication occurs in digital work environments; and 2) to identify ways organizations may improve remote workers' engagement and sense of value through better communication methods in digital environments.

The mixed-methods approach to this study included a survey designed to understand remote employee perceptions of communication and satisfaction in their organizations, semi-structured interviews designed to elicit further insights into remote employee perceptions and thoughts, and a design thinking session using Liberating Structures intended to encourage interaction and insights among remote workers. These activities seek to answer two main research questions:

**RQ1:** How do remote employees perceive the communication methods in their organizations?

**RQ2:** How do the methods remote workers use to communicate with others in their companies contribute to their sense of engagement and value?

To address the first question, the results provided by the survey, interviews, and design thinking session help to gauge the remote workers' perceptions of communication through Likert scales and open-ended questions. To address the second question, I analyzed the data provided by the survey, interviews, and design thinking session for key themes and also applied statistical analysis to provide insights into remote employee experiences.

Liberating Structures includes a set of design thinking strategies for effectively structuring systematic brainstorming sessions among stakeholders within a particular problem space. Using design thinking strategies to explore how to better engage employees moves the focus from the design of a single product to instead considering a whole problem space. It also provides solutions that revolve around the needs of the people using products, services, or systems. This thesis will apply this idea to the needs of remote workers who must communicate with their organizations. This project will also involve observing and gathering data and perspectives from those personally involved in internal communications in a digital work environment. These observations and data will show whether there exists a need for improved communication methods to further the feelings of value and engagement in remote employees.

Digital work environments clearly require different methods of communication than physical work environments. Therefore, this thesis study focused on better understanding the communication experiences of remote workers aims to enhance our understanding of how to use new technological tools to help organizations be successful and relevant while also engaging their remote employees. Additionally, this study aims provide helpful insights into remote workers' sense of engagement and

value. By investigating the communication methods remote workers use, as well as where specific problems exist, new ideas about how to improve these processes can be discovered. Likewise, the connection between internal and external communication in an organization will hopefully foster improvement of these factors to extend to what remote workers say to others about their organization. This discovery is certainly important to companies that employ remote workers. The remainder of this thesis is structured as follows: Chapter 2 provides a review of literature that includes sections focused on design thinking and human-centered design, internal communication as an organizational function, the connection between internal and external communication, employee engagement, and digital work environments. Chapter 3 outlines the research methods employed by this thesis, including descriptions of participants and an overview of procedures. Chapter 4 reports multiple layers of data derived from this mixed-methods approach. Finally, Chapter 5 discusses the value and meaning of the research findings.

## **Chapter 2: Literature Review**

This literature review explores three disciplinary fields relevant to this project: design thinking, internal communications, and employee engagement, all within the digital work setting.

### **Design Thinking and Human-Centered Design**

This thesis will address the methods of communication remote employees use and how those methods contribute to their sense of engagement and value. The processes of design thinking allow the designer to look at the interaction of the people involved and the system they use. In this case, design thinking will address the interaction between remote workers and the way they communicate with their organizations. Buchanan (1992) explains that the experience of humans depends directly on the design of anything with which they interact. Thus, designers of products or services must consider how what they build will connect with their users personally. Buchanan (1992) also notes that products must be designed not only to look appealing but also to help people in their daily lives.

This information provides a rationale for exploring the internal values within the systems and products we design, which is a key consideration within the design thinking process. Brown (2009) identifies the goal of design thinking as translating observations into insights and then into products and services that improve people's lives. Translating these observations begins with human factors and increases the likelihood of a human-centered design. This process involves collaboration between creators and consumers and allows individuals to actively participate in the process of creation. According to Lipmanowicz and McCandless (2013), "The process of involving many individuals

across an organization will allow for new professional and social connections across functions and levels within the organization. This will reduce the silos often experienced within large organizations” (p. 55). This project will use these ideas to engage users early on in the design process by dedicating time to the observation of daily activities and behaviors of those who work remotely.

Human-centered approaches to design are a key focus for design thinking. Dahl, Lawrence, and Pierce (2011) assert that managers must sustain their organizations by viewing technology as an enabler while also identifying the needs of stakeholders through iterative processes. This idea is important because it emphasizes the focus of design around human factors rather than around technology available. Additionally, it highlights the idea that the needs of employees must be assessed using an iterative process such as design thinking. This project will involve exploring which methods and technologies will best benefit the effectiveness of communication within digital work environments.

It must be noted, however, that design thinking does not come without criticism. Vinsel (2018) calls design thinking a “boondoggle” (p.1) and states that it is simply a fancy way to discuss consulting. He believes that design thinking takes the idea of listening to a client and finding his or her needs and turns it into a more complicated structure. His argument revolves around the idea that design thinking reconfigures existing systems with more sleek interfaces and lacks any technological transformations. Despite these arguments, design thinking approaches problems not from a simple business perspective. Rather, design thinking focuses a large portion of time and energy on understanding the context and importance of the problem space.

Adding sleek interfaces might happen within the design thinking process, but design thinking does not solely focus on making products look better. A key consideration of design thinking lies in sustainability. The process provides solutions that are realistic and attainable.

While Vinsel (2018) sees design thinkers as merely glorified consultants, these individuals do more than this. Consultants listen to their clients, identify their needs, and find actionable solutions. However, design thinkers do this in addition to finding thoughts, problems, and values of clients that might not be obvious to the clients themselves (Bootcamp Bootleg, 2015). Often, design thinking also explores what emotions guide the behaviors of the users (Bootcamp Bootleg, 2015). Design thinkers are designers, and they constantly question their work and outcomes, which is not always true in the consulting world. The process provides a framework, but design thinkers are not afraid to try something new in order to best address their problems.

In addition, design thinking produces both physical artifacts and emotional experiences that prove its effectiveness. According to Kolko (2015), “The habit of publicly displaying rough prototypes hints at an open-minded culture, one that values exploration and experimentation over rule following” (p. 5). Elsbach and Stigliani (2018) also conducted a review of 18 empirical studies that found evidence that design thinking tools resulted in those involved experiencing emotion, particularly empathy and surprise or delight. These researchers show that design thinking not only solves the problems outlined within the problem space but also promotes a culture of innovation and openness in organizations in which it is used.

Vinsel (2018) argues that design thinking does not inspire innovation. However, there exists research that contradicts this assertion. Liedtka (2015) addresses how the process of design thinking can improve innovation by linking it with cognitive bias reduction. She concludes that:

A review of the decision-making literature surrounding cognitive bias suggest that design-thinking practices carry the potential for improving innovation outcomes by mitigating a well-known set of cognitive flaws: humans often project their own world view onto others, limit the options considered, and ignore disconfirming data. They tend toward overconfidence in their predictions, regularly terminate the search process prematurely, and become overinvested in their early solutions--all of which impair the quality of hypothesis generation and testing (p.13).

This verifies that design thinking is a valid problem-solving strategy and helps to diminish flaws in problem-solving methods.

### **Internal Communication as an Organizational Function**

Internal communication has two main roles within an organization: sharing information and creating a sense of community (Francis, 1989; Elving, 2005; Friedl & Verčič, 2011; Karanges, Johnston, Beatson & Lings, 2015). Internal communication may be defined as “strategic management of interactions and relationships between stakeholders at all levels within organizations” (Welch & Jackson, 2007, p.183). Internal communications is a key function within organizations and becomes even more important in digital work environments. Internal communication as an organizational function has been studied by many researchers including Welch (2007; 2012), Jackson (2007), Jablin (2001), and Putnam (2001). Welch and Jackson (2007) studied the connection between internal and external communication and the effect of internal communication methods on the engagement of employees. They found that internal stakeholders greatly influence external communications and that successful internal

communication methods increase the engagement of employees. Jablin and Putnam (2001) study the connection between communication and power, how organizations can help with employee stress, and the impact of membership in a social group in the workplace. They identify that those who are given more information have more power in organizations. They recognize the importance of resources given to employees to decrease job stress. Additionally, they find that membership in a social circle increases job satisfaction, especially with highly-educated individuals (Jablin & Putnam, 2001). Welch (2012) identifies that internal communication takes many forms from informal chat to formal corporate communication to all employees. He asserts that internal communication is vital to organizational effectiveness because it contributes to positive internal relationships by allowing communication between managers and employees.

According to Argenti (1998), "More interaction gives management more credibility with employees (p. 200)." Argenti also writes:

Managers need to get out from behind their desks, put down their telephones, get away from their computers, and go out and get to know the people who are working for them. No other method works as well, and no quick fix will satisfy the basic need for interaction with other people (p. 205).

Managers need to know their employees as people before successful internal communication and engagement can occur. Successful internal communication promotes employee awareness of opportunities and threats. This also helps employees to understand changes in the organization. Organizations with open communication channels are more likely to have supportive employees (Smidts, Pruyn & Van Riel, 2001). Kitchen (1997) explains that employees work more effectively when they are better informed. He states that in order to be fully informed, employees must have a

“complete understanding of the aims and objectives of an organization” (p. 80) as well as where they as an individual fit into the strategy of the organization .

Unzicker, Clow, and Babkus (2000) state that “The better employees perceive a firm’s communications practices, the better the image that the employees will have of the firm. This, in turn, will lead to higher commitment and loyalty by employees” (p. 88).

Jablin and Putnam (2001) explain how the identity of organizations depends greatly upon the internal communication, or information flow, within the organization. They explain that internal communication implies power dynamics within an organization.

However, more communication is not always better. White, Vanc, and Stafford (2010) provide the term “information adequacy” for striking a balance between too little information, causing distrust, and too much information, causing information overload. In diverse organizations, communication must vary based on individual interests and needs. Future research could identify the role personality and communication skills play on the preferences of employees (White et al., 2010).

Jablin and Putnam (2001) also identify that communication and culture connect directly. When individuals see culture as a way to communicate, language choice in the workplace becomes vital. Language influences the experiences of those in an organization. Recognizing that using the correct language in internal communication will more effectively communicate meaning. The authors also address how technology such as email provides structure for behavior within organizations. Finding ways to improve internal communication within digital work environments will likely include the use of new technologies. However, although in some cases email efficiently handles

information flow, employees still value and prefer face-to-face communication (White et al., 2010).

It is also important to note that various stakeholder groups exist within organizations, including those people within organizations that work remotely. Welch and Jackson (2007) identify that stakeholder groups within organizations must be defined through research into employee preferences and needs of channel, content, and amount. Additionally, they recognize ethics as a key consideration. This project will investigate the key stakeholder groups within remote employees as well as their preferences and needs of communication channels, content, and amount. Not only the functional needs but also the emotional needs of employees must be identified. A recent shift from functional to emotional value means internal communication must not only function at a high level of efficiency but will also require improvement to these stakeholders' lives in an emotional way (Brown, 2009).

Other contributing experts discuss other topics relating to internal communication as an organizational function. One key concern of internal communication involves trust. The relationship between the perceived quality of internal communication and levels of trust within an organization will be an area of exploration in this paper. Verčič et al. (2012) emphasize how globalization, deregulation, and economic crises have led to a dramatic reduction of trust leading to an increased importance of internal communication. Men and Stacks (2014) assert that internal communication matters greatly in creating positive employee attitudes such as trust, organizational commitment, and job satisfaction. They suggest employing a two-way, employee-centered, and responsive symmetrical communication system to cultivate daily communication.

Symmetrical communication consistently predicts positive employee outcomes such as job satisfaction, loyalty, and relationships. Transparent communication helps to build employee trust, organizational credibility, and employee engagement. Effective communication networks help create a climate with more openness, participation, and transparency (“The Predictive Relationship...”, n.d.). Climates such as these increase intentions to remain at the place of employment, commitment to the place of employment, and job satisfaction.

### **Connection between Internal and External Communication**

Internal communication has been greatly affected by the work of many researchers. There exists a connection between internal and external communication in organizations. Welch and Jackson (2007) remind the reader that communication classified as internal becomes external with a push of a button if an individual forwards a simple email. As organizational identities have become fragile (Jablin & Putnam, 2001), something as simple as an email might change the identity of an organization if it becomes exposed to the general public. This is especially the case due to the increase of information available to the public. White et al. (2010) cite research tying internal communication to external communication through employee opinions consistently amplifying to external sources. This might also occur through the sharing of an email or a post on social media that becomes much larger than it seems within the organization.

Influences outside organizational control factor into internal communication. Jablin and Putnam (2001) discuss the factors of community, family, previous experience, and technological advances on internal communication. These factors affect workplace culture and when individuals see culture as a way to communicate,

language choice in the workplace becomes vital. Language influences the experiences of those in an organization.

These factors contribute to this thesis because stakeholder groups vary and require various channels, content, and amounts of information in order to feel satisfied. Employees also do not like receiving information about their own organization from the media or other outside sources (White et al., 2010). Additionally, it is important to note that outside factors contribute to internal communication. This thesis will focus on the information flow and various aspects of communication methods remote employees experience. The project will involve analyzing the amount of trust in a digital work environment and how symmetric and transparent communication occur. Recognizing that using the correct language in internal communication will more effectively communicate meaning and will also provide an area of further exploration.

### **Employee Engagement**

A clear definition of employee engagement does not exist despite the fact that many researchers have studied the concept. This thesis will discuss employee engagement as the attachment, satisfaction, and involvement of an individual with their job and/or company. Macey and Schneider (2008) define engagement multidimensionally, which fits well with the research in this paper. They indicate that engagement as a psychological state relates to absorption, attachment, and enthusiasm. They state that some practitioners measure engagement based on satisfaction. Meanwhile others distinguish between an affective, or emotional, component of engagement that links emotion to job satisfaction. Macey and Schneider (2008) also indicate job involvement as a part of employee engagement. They cite

Cooper-Hakim's and Viswesvaran's (2005) definition, which describes job involvement "as the degree to which an employee psychologically relates to his or her job and the work performed therein" (p. 244), which ties job involvement to job commitment (Macey & Schneider, 2008).

In general, there is a lack of knowledge surrounding engagement. According to Lipmanowicz and McCandless (2013), "There does not exist enough information on how to engage people effectively and broadly" (p. 13). However, some research exists on key topics relating to this project such as using communication to improve employee engagement and organizational commitment. Welch and Jackson (2007) emphasize clear, consistent, and continuous communication as a way to build employee engagement. This communication strengthens the degree of identification employees feel with their organization and their attitude to supporting it. This occurs through the emphasis of shared beliefs and values (Welch & Jackson, 2007). Jablin and Putnam (2001) discuss how organizational culture involves the communication of the organization. Each interaction involved in communication creates the overall culture of an organization. Membership within a social circle in a workplace often impacts job satisfaction.

Another aspect of employee engagement that will affect this research involves psychological factors. Kahn (1990) discusses the ways in which people use various degrees of themselves in their work performances. When people are engaged with their work, they pay attention and connect with others to the point that they show their feelings, thoughts, and beliefs. Kahn (1990) discovered three psychological conditions that impact engagement: meaningfulness, safety, and availability. He states:

Psychological meaningfulness was associated with work elements that created incentives or disincentives to personally engage. Psychological safety was associated with elements of social systems that created more or less non-threatening, predictable, and consistent social situations in which to engage. Psychological availability was associated with individual distractions that preoccupied people to various degrees and left them more or fewer resources with which to engage in role performances (p. 12).

People change their engagement based on their perceived benefits, guarantees, and resources, which align directly with meaningfulness, safety, and availability. Employees found meaningfulness when their tasks included productive social interaction with co-workers and clients. Therefore, employee engagement directly involves communication (Kahn, 1990).

In reference to the commitment aspect of employee engagement, Meyer and Allen (1991) determine three types of commitment: affective, continuance, and normative. Employees who possess attitudinal attachment remain with the organization because they want to do so. Employees with continuance commitment remain a part of the organization because they need to do so. Individuals with normative commitment remain employed by the organization because they feel they ought to do so. The authors stress the idea that an employee might experience all three forms of commitment in different capacities. Personal characteristics vary by individual, so people have various levels of ability to become affectively committed to an organization. The authors suggest using information about commitment not only to reduce turnover but to increase employee commitment through dedication to employee well-being (Meyer & Allen, 1991). Employees that feel they gain positive work experience in their jobs exert more effort in order to maintain equity with the organization. These

employees become further committed when their values align with those of the organization (Meyer & Allen, 1991).

A few experts make further contributions to topics regarding employee engagement that relate to the focus of this paper. Dahl et al. (2011) discuss how creating shared ownership further engages stakeholders in a company's internal communication structure. When employees participate, they find and create meaning in their work which increases employee engagement.

Kariuki (2015) explores the role of job design on employee engagement. The authors assert that the nature and characteristics of work have an impact on employee engagement. A lack of connection to the difference an employee's work makes on others often limits commitment and engagement (Kariuki, 2015). Engaged employees work with energy and feel connected, while employees who do not feel engaged lack energy, and actively disengaged employees show their lack of engagement by acting it out at work (Kariuki, 2015). This research is important because it demonstrates that optimizing both social and technical systems will maximize productivity and satisfaction in employees. Evaluation of digital work environments may occur through looking at its efforts for transparency and input from internal stakeholders.

Mishra, et al. (2014) describe how transparency in internal communication leads to employee engagement. The authors state that strong internal communication creates trust and commitment from employees which also leads to employee engagement. The authors emphasize the use of storytelling, informal communication, and coaching as ways to increase employee engagement and trust. Mishra, et al. (2014) also identify face-to-face communication as the most preferred and effective method of

communication. Organizations that share information widely create a sense of belonging for employees, leading to increased trust and further employee engagement. This study limited results to a moment in time and could expand longitudinally. Evaluating manager expertise in communicating with employees in face-to-face situations could expand knowledge in this area (Mishra et al., 2014).

These ideas are important to this thesis because they assert that culture, power dynamics, transparency, and various types of commitment are factors that contribute to employee engagement. In a digital setting, one must consider that despite the distance in location, personal aspects must remain. This provides a basis of support for transparency and connection between all levels of employees in an organization, even with remote employees. If employees find values that align with theirs through the communication of the organization, they will be more likely to communicate effectively and add to organizational success.

### **Digital Work Environments**

Working remotely benefits organizations by reducing real estate expenses, increasing productivity, increasing profits, improving customer service, providing access to global markets, and giving environmental benefits (Cascio, 2000). Employees like that remote work allows them to have more control over their lives (Kelliher & Anderson, 2008). O'Neill, et al. (2014) state that self-management likely increases role clarity and feelings of control, which lead to increased engagement. Working remotely has grown dramatically in the past decade, and some companies rely on remote workers for a large portion of their workload. As an early adopter of remote work, IBM had more than

45 percent of its 400,000 contractors and employees working remotely (Johns & Gratton, 2013).

Despite its many advantages, remote work does not come without disadvantages. Kelliher and Anderson (2010) discuss how those who work remotely experience job intensification. They reference work by Warr (1987) that ties work intensification to a reduction in job satisfaction and worker well-being. Along with being further in physical distance from the workplace, remote workers “must generate different strategies to make their voices heard and to establish a remote presence (Koehne, Shih & Olson, 2012, p.1261). They must communicate their availability consistently since no one is present to see them working. Koehne et al. (2012) states that to combat the team challenge of visibility and presence of remote workers, organizations should provide awareness tools to show the availability of remote workers and increase their presence on the team.

While working remotely, many individuals feel isolated. In some studies, this has been found to lead to decreased job satisfaction (Igbaria & Guimaraes, 1999). Ten out of 17 people in Koehne et al.’s (2012) study discussed that they want more social interaction than they get while working remotely. Additionally, those who work from a distance sometimes worry about the development opportunities offered to them, especially when it comes to informal learning and mentoring (Cooper & Kurland, 2002). Because they feel they are less visible, a majority of these workers push to be involved in high profile projects (Kelliher & Anderson, 2008). Remote workers also at times feel underappreciated since many times promotions are given based on social interactions (Johns & Gratton, 2013).

The lack of social interaction among remote workers may be mitigated through employees addressing this issue by leaving home to connect with others and socializing electronically (O'Neill et al., 2014). Another strategy involves using nearby friends and family as connections (Koehne et al., 2012). Fourteen out of 17 participants in Koehne et al.'s (2012) study rely on their personal connections to find mentors to help them transition from working on-site to working remotely. Additionally, they can find a personal contact from the core team on site who can be trusted to reply the remote team member's work and thoughts (Koehne et al., 2012).

Another challenge that should be considered involves how remote work evolves over time. As legislative support increases and remote work becomes more common, employees may feel less grateful for the accommodation allowing them to use their preferred working pattern (Kelliher & Anderson, 2010). This might lead to employees no longer feeling as if they need to offer something such as an increased effort in return (Kelliher & Anderson, 2010).

Many factors can play into the effectiveness of remote workers. Personal characteristics influence the success of working remotely. Martins, Gilson and Maynard (2004) and Powell, Piccoli, and Ives (2004) emphasize that distributed team members each have different characteristics and that different teams have different interpersonal team processes including affect management, social integration of team members, and the social context. O'Neill et al. (2014) states that personality plays a role in digital work environments because those whose personality aligns with behaviors they need to work effectively perform better. The authors indicated that the personal qualities of extraversion and agreeableness lead to increased socialization efforts which predict

engagement (O'Neill et al., 2014). Staples et al. (1999) discuss how when organizations increase their employee's self-efficacy judgements about their abilities to complete their job responsibilities, performance improves.

Staples et al. (1999) provide drivers of effective remote work in an organization. These include effective communication between managers and employees, experience and training with remote management and remote working arrangements, and effective management practices. The authors emphasize that creating realistic expectations around the amount of face-to-face time and performance expectations help remote work arrangements to be effective. Many researchers indicate that management directly influences the effectiveness of remote work. Staples et al. (1999) provide results indicating that effective remote workers need managers who are good communicators. These managers must listen well and manage both meetings and their employees' time well. They also must support team building and social activities. Cascio (2000) states that many managers must learn new communication skills to prevent their team members from feeling isolated. Cascio (2000) provides many specific ways in which managers can help their remote team members work more effectively and notes the importance of training employees in their transition into remote work. Staples et al. (1999) also concludes that "virtual organizations need to develop training courses and training materials that help their remote managers both learn about and implement effective remote management practices" (p.772). Akkirman and Harris (2004) provide a five-step plan for transitions from traditional to remote workplaces. Their research studied an organization that successfully implemented the transition and had highly satisfied employees as a result.

Strategies to encourage effective remote work extends past managers and the remote employee and also addresses teams. Johns and Gratton (2013) discuss the practices of Tata Consultancy Services, a company where more than 85 percent of workers perform remote work, in ways to achieve clarity in communication between managers, teams, and remote employees. Teams must establish goals, key roles, commitments, and ground rules from the beginning. Managers can define the vision, set the boundaries, and then release their control. The roles and commitments given are measured against well-communicated metrics. Additionally, the team must have a culture of trust unless an individual proves him or herself unworthy of trust. Koehne et al. (2012) also states that “organizations should have clearly defined distributed work processes and communication plans” in order to coordinate and communicate effectively (p.1258). Many remote companies also use social networks such as Salesforce.com’s Chatter, Slack, and Microsoft’s Yammer. Employees view these tools not as an additional administrative process but as a way to facilitate the work they need to do (Johns & Gratton, 2013). Koehne et al. (2012) also emphasizes the team challenge of having a social support network and suggests providing tools to enable employees to connect with their team for additional expertise. The closer technologies such as these align with employee’s personal uses of devices and software, the quicker they adapt to them (Johns & Gratton, 2013).

Although physical workspaces were designed to hold expensive technology and tools needed for employees to support efficient processes and to reinforce the hierarchy of management, they also often provide cultural alignment, idea generation, and fellowship that leads to increased trust, teamwork, and quality (Johns & Gratton, 2013).

When remote workers struggle to remain effective due to the lack of some of these characteristics, another alternative might be available. Coworking spaces provide a place to work that is close to home, and easily rearranged but more importantly provides social interaction among others who work there. Many companies believe that having individuals from various teams and industries increases engagement and growth. Johns & Gratton (2013) quote John Malnor, the vice president of growth initiatives at Steelcase, who says: "Our belief is that mixing creative teams from different industries will spawn happy accidents that inspire innovation, new products, and different ways of thinking" (p.7).

There exists little research about how communication methods in digital work environments contribute to the engagement and value that remote employees feel. Most research tying these subjects does not take a human factors approach such as design thinking does. Additionally, most research simply relates the two concepts rather than showing direct ways one influences the other.

### Chapter 3: Methodology

This project used design thinking, a survey, interviews, and a design thinking session to investigate how remote employees communicate with others in their organizations, as well as how modes of communication contribute to remote employees' sense of engagement and value. This thesis is intended to discover strategies that can better engage remote employees. The implementation of design thinking as a user-centered tool for audience understanding facilitated solutions that evolved from the stated needs of the people involved.

Two key research questions explored remote employee perspectives and ways to improve communication methods within digital work environments:

- RQ1: *How do remote employees perceive the communication methods in their organization?*
- RQ2: *How do the methods remote workers use to communicate with others in their companies contribute to their sense of engagement and value?*

A survey, interviews, and design thinking sessions with remote employees of various organizations across many fields were conducted to explore RQ1. Remote workers provided insights into their personal identification with and commitment to their organizations through these activities. The survey, interview, and design thinking sessions also explored RQ2. These methods were used to investigate how the perception of communication in organizations by remote employees affects their own sense of engagement and value.

#### Participants

Participants were recruited across various organizations and fields to provide insights into communication methods in digital work environments, as well as how these methods affect remote workers' feelings about personal engagement and value. An

email was sent to the Ball State University community requesting volunteers to participate in this study. Posts were also published on Facebook, Twitter, and Instagram asking for volunteers. After participants were identified, a second email was sent that included the Remote Work Communication and Satisfaction Survey designed to elicit feedback about participants' experiences of working remotely, especially in reference to job satisfaction and communication methods. A sub-selection of participants was recruited to participate in semi-structured interviews in order to dig deeper into the communication methods used by their organizations, as well as elicit their opinions about those methods. These participants were recruited in one of two ways: 1) by volunteering after taking the initial survey or 2) through another request for volunteers sent via email to the university community. Participants for the design thinking sessions were recruited during the survey and interviews as well.

An additional email was sent through the university communication center to recruit participants to participate in a design thinking session intended to gather additional information about their experiences of working remotely, especially in relation to job satisfaction and communication methods. Participants were required to be older than 18 and have worked as a remote employee either currently or in the past.

### **Instruments**

Downs and Hazens' (1977) Communication Satisfaction Questionnaire survey was implemented for this study to elicit specific insights about current communication practices and factors that influence the feelings of engagement and value of remote workers. The Remote Work Communication and Satisfaction Survey included a validated communication satisfaction questionnaire from Downs and Hazen (1977)

which asks participants to rate their communication satisfaction over five topics — personal feedback, organizational integration, communication climate, horizontal communication, and relationship with supervisor. The Remote Work Communication and Satisfaction Survey also includes demographic questions, as well as questions related to communication methods, engagement, and value. Participants also had the opportunity to provide suggestions about how their organization could improve their experiences as a remote workers. Additionally, participants were asked to elaborate on their individual needs to understand individual differences versus generalizations that extend to the broader area of remote work. (see full survey in Appendix A).

Respondents answers' to questions related to five key predictors — feedback, integration, communication climate, horizontal communication, and relationship with supervisor — were analyzed to determine whether a correlation exists between the above variables and participants' scores on these key predictors, which are defined as follows:

- **Feedback:** The feedback score was based on five Likert scale questions regarding information about how an employee's job compares with others, how they are being judged, the recognition of their efforts, reports on how problems are being handled, and the extent to which superiors know and understand the problems they face.
- **Integration:** The integration score was based on five Likert scale questions regarding information about an employee's progress, requirements of the job, personnel news, departmental policies and goals, pay, and benefits.

- **Communication climate:** The communication climate score was based on five Likert scale questions regarding the employee's perception of the motivation and stimulation for meeting goals due to communication, the communication abilities of others in the organization, the identification or feeling of necessity communicated by the organization, timeliness of necessary information, and proper communication channels to handle conflicts.
- **Horizontal communication:** The horizontal communication score was based on five Likert scale questions regarding the employee's perception of activity of the grapevine in the organization, the accuracy and free-flow of horizontal communication with other employees, the adaptability of communication practices to emergencies, the compatibility of an employee's work group, and the accuracy and activity of informal communication.
- **Relationship with supervisor:** The relationship with supervisor score was based on five Likert scale questions regarding the employee's perception of the ability of their supervisor to listen and pay attention to them, provide guidance for solving job-related problems, place trust in the employee, cultivate openness to new ideas, and keep informal communication active and accurate.

Semi-structured interviews were also conducted with 11 participants in order to understand their thoughts about the communication methods their organizations use. Many specific questions helped distinguish how remote workers perceive the overall

communication quality and methods within their organizations versus how they perceive the communication quality and methods of their individual departments or with their individual supervisors. This thesis explored the various factors that affect communication processes within organizations. It also explored factors of employee engagement and value. Exploring these factors provided various perspectives of individuals while also allowing generalizations for all organizations with remote employees. The remaining questions revolved around whether the participants felt socially connected in their organizations, their comfort with taking risks in their organizations, and the alignment of their personal goals with the organizations' goals. A few questions gauged how valued participants felt by his or her organization. Semi-structured interviews each lasted approximately 30 minutes (See interview questions in Appendix B).

One design thinking session used Liberating Structures to help the groups involved collaborate in order to provide better feedback. "Liberating Structures are designed to help people notice existing patterns and provide structures for including everyone in discovering more productive practices (habits) and for deciding how to shift from the old to the new" (Lipmanowicz & McCandless, 2013, p. 43). These methods are adaptable microstructures that allow groups to improve the way they interact (Lipmanowicz & McCandless, 2013). Microstructures are small structures we select routinely in order for us to interact with others. They are the way in which individuals organize their everyday interactions whether they realize it or not (Lipmanowicz & McCandless, 2013, p. 13). The Liberating Structures used were TRIZ and Generative Relationships STAR. TRIZ used the question: "What must we stop doing to make

communication better?” to find problems that are rarely discussed or recognized. Generative Relationships STAR helped participants recognize the strengths and weaknesses of the teams in which they are involved by having idea generation beginning individually, then extending to small groups, and then expanding to the whole group. The design thinking session took approximately one hour and was held on WebEx, an online video conferencing system (See full design thinking session protocol in Appendix C). Data from these sessions was used to help more clearly define the problem space and generate solutions through an ideation phase

### **Procedures**

Sometimes, new technological tools are applied to any problem in an attempt to solve it. However, design thinking instead focuses on what solutions would most improve the lives of those involved. Using design thinking allowed time to explore the needs of those in the remote work setting. Using this approach provided inquiry into the complex and numerous factors that influence the behaviors of employees. These behaviors typically influence the overall culture within an organization and stem from external factors, internal communication influences, and the relationships employees have with others in their organization. The conclusions coming from this method of research provide more insights than those gathered based solely off of qualitative or quantitative research. The method allowed recognition of the collaboration across various practices, ideas, and fields. Interviewing and discussing topics in-person with remote workers provided a focus on the internal values and feelings of these people rather than creating a new tool or idea to meet a need that might not exist within these individuals.

The process of design thinking includes empathizing, defining, ideating, prototyping, testing, implementing, and evaluating. Empathizing involved conducting research to understand stakeholders, users and audience. This occurred through ethnographic interviews, surveys, and design thinking sessions.

Defining the problem space combined research and observations of user problems to make connections as to what the problem space involved. Ideating included a saturate and group activity, brainstorming, and how-might-we questions. Saturate and group is a design thinking activity that helps “unpack thoughts and experiences into tangible and visual pieces of information that...inform and inspire the design team” (Bootcamp Bootleg, 2015). The process involves having participants write as many ideas as possible, each on a different post-it note, and then the post-its are organized based on patterns. This helps synthesize ideas and provide insights that allow the creation of useful design solutions (Bootcamp Bootleg, 2015). How-might-we questions ask for ideas that can extend into brainstorming questions. The questions are carefully selected to create a wide range of solutions but also keep the answers in scope (Bootcamp Bootleg, 2015). The activity produces ideas for the design solution. This step included generating as many novel ideas or problem solutions as possible.

Building representations for the most valuable ideas would represent the prototyping phase. Testing would involve gathering feedback from users on these prototypes. Implementing would involve putting the ideas into practice. Evaluating would include gauging user responses. However, these last four steps did not occur as part of the project although they are included in the design thinking process.

Although the methods described here are likely to produce valuable and insightful results, they do not come without limitation. As Staples et al. (1999) state regarding their study, this thesis did not control for specific tasks within industries that might affect the answers provided by remote employees. Also, this study measured employee satisfaction rates and opinions at a specific point in time. Research might be done to examine longitudinal data on these factors.

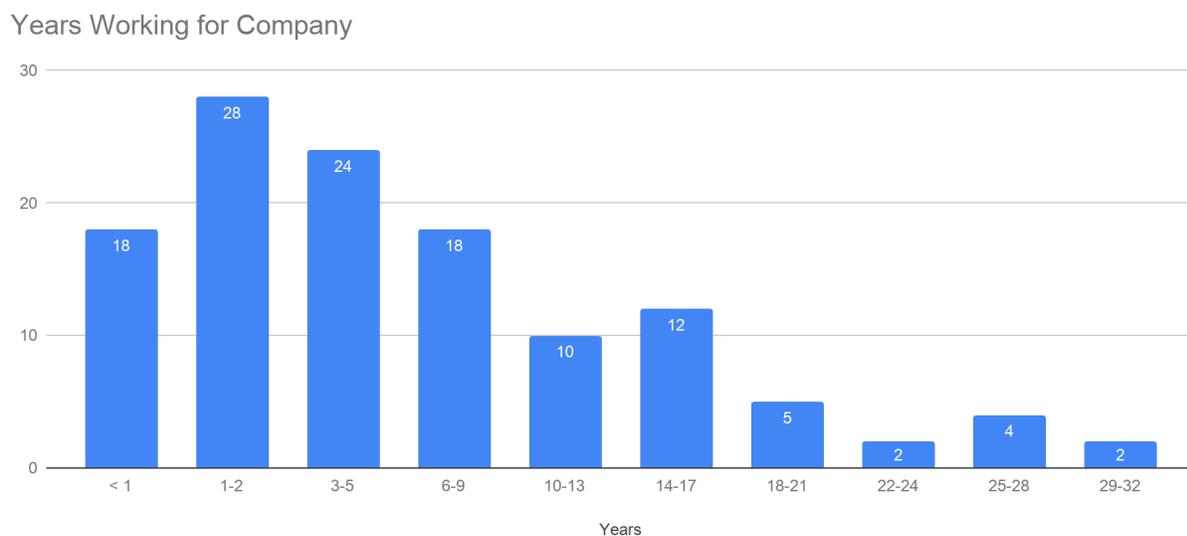
In recruiting participants through university communication, the research might be affected in a few ways. First, all participants will be linked to Ball State in some way, either directly or through a connection to the university. This means most of them live in a certain geographic location. Surveys and questionnaires provided some quantitative data. This data was useful, but because of the complexity of the subject matter studied in this project, isolation of factors affecting communication, engagement, and value for remote workers proved difficult. As discussed in the literature, a multitude of external and internal influences affect employees. Although researchers may attempt to account for these factors, full isolation of any one factor is virtually impossible. Taking a big-picture approach in analyzing the organization through many viewpoints would allow the best understanding of the current situation and potential future improvements to the communication structure of organizations with remote workers.

## Chapter 4: Results

This thesis employed a mixed-methods approach to investigate remote employee perceptions of communication within their organizations, as well as how those communication methods affect remote workers' sense of engagement and value. Below are the results from a survey designed to understand remote employee perceptions of communication and satisfaction in their organizations, interviews intended to elicit further insights into remote employee perceptions and thoughts, and design thinking session developed to encourage interaction and insights among remote workers.

### Participants

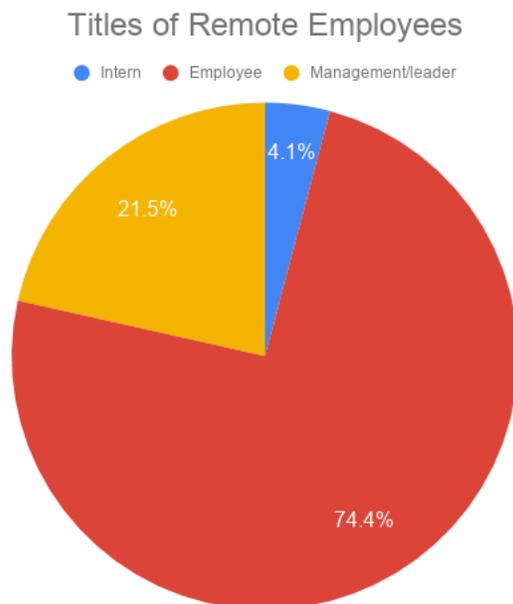
Survey participants chose whether to provide information about gender identity and age. Of those who identified, 86 (69.9%) respondents were female, 36 (29.3%) male, and 1 (0.8%) non-binary. All 123 respondents indicated the length of time they have been employed by their organization, with more than half (51.5%) indicating they have worked for their organization for 10 years or less. (Figure 1).



**Figure 1. Years Working Remotely for Organization (n=123)**

Of the 123 respondents, 122 of them indicated the industry in which they work. The most popular response was education (35). The second most popular response was software (17) followed by health/medical (12), and communications (9). The remaining responses were spread across many industries. Of those who reported job titles, 90 were general employees, five were interns, and 26 were members of the management or leaders within their organizations (Figure 2). The industries reported by participants were varied. Of those who reported their industries, the most popular field was the health/medical field, 9 worked in communications, 6 worked in financial services.

### Survey Results



**Figure 2. Titles of Remote Employees reported by survey participants (n=121)**

A total of 232 survey responses were collected. However, 109 were eliminated from the dataset because they were invalid or incomplete. This left a total of 123 survey participants. Survey respondents were asked to rate their perceptions of three key variables on a five-point Likert scale. The first was general satisfaction, which refers to an employee's overall satisfaction with their job. The second was commitment, which refers to

the level of commitment an employee feels toward the organization for which they work. The third was transparent communication, which refers to the employee's overall perception of the level of clarity of organizational communication.

A Pearson product-moment correlation was run to determine the relationships among feedback, integration, communication climate, horizontal communication, and communication with supervisors and general satisfaction. There was a high-moderate, positive correlation between general satisfaction and feedback ( $r = .672$ ,  $n = 123$ ,  $p = .000$ ), integration ( $r = .599$ ,  $n = 123$ ,  $p = .000$ ), communication climate ( $r = .653$ ,  $n = 123$ ,  $p = .000$ ), and communication with supervisors ( $r = .539$ ,  $n = 123$ ,  $p = .000$ ). These correlations were statistically significant. Thus, a simple linear regression was calculated to predict general satisfaction based on feedback, integration, communication climate, and communication with supervisors.

A significant regression equation was found for general satisfaction and feedback ( $F(1,121) = 99.510$ ,  $p < .000$ ), with an  $R^2$  of .451. Participants' general satisfaction score is equal to  $1.331 + .152$  (feedback) when perceptions of the amount of feedback workers receive about their work is measured. General satisfaction increased .152 points for each point increase in perceived feedback. A significant regression equation was also found for general satisfaction and integration ( $F(1,121) = 67.667$ ,  $p < .000$ ), with an  $R^2$  of .359. Participants' general satisfaction score is equal to  $1.323 + .144$  (integration) the degree to which workers' feel integrated within their organizations is measured. General satisfaction increased .144 points for each point increase in perceived integration. Likewise, a significant regression equation was found for general satisfaction and communication climate ( $F(1,121) = 90.005$ ,  $p < .000$ ), with an  $R^2$  of

.427. Participants' general satisfaction score is equal to  $1.678 + .137$  (communication climate) when perceptions of the perceived communication climate within an organization is measured. General satisfaction increased .137 points for each point increase in perceived communication climate. Finally, a significant regression equation was also found for general satisfaction and communication with supervisors ( $F(1,121) = 49.533, p < .000$ ), with an  $R^2$  of .290. Participants' general satisfaction score is equal to  $1.815 + .117$  (communication with supervisors) when perceptions of the perceived communication with supervisors is measured. General satisfaction increased .117 points for each point increase in perceived communication with supervisors.

There was a weak, positive correlation between a worker's reported level of commitment to an organization and perceptions of the communication climate ( $r = .340, n = 123, p = .000$ ), horizontal communication across an organization ( $r = .320, n = 123, p = .000$ ), and communication with supervisors ( $r = .320, n = 123, p = .000$ ). These correlations were also statistically significant. There was no correlation between commitment and feedback ( $r = .297, n = 123, p = .001$ ) or perceptions of integration within the organization ( $r = .296, n = 123, p = .001$ ). Thus, a simple linear regression was calculated to predict a worker's reported level of commitment to an organization based on communication climate, horizontal communication, and communication with supervisors.

A significant regression equation was found for a worker's reported level of commitment to an organization and the perceived communication climate ( $F(1,121) = 15.818, p < .000$ ), with an  $R^2$  of .116. Participants' general satisfaction score is equal to  $2.123 + .096$  (communication climate) when perceptions of the perceived communication

climate within an organization is measured. A worker's reported level of commitment to an organization increased .096 points for each point increase in the perceived communication climate. Likewise, a significant regression equation was also found for a worker's reported level of commitment to an organization and perceptions of the horizontal communication across the organization ( $F(1,121) = 13.833, p < .000$ ), with an  $R^2$  of .103. Participants' general satisfaction score is equal to  $1.830 + .108$  (horizontal communication) when perceptions of the horizontal communication across an organization is measured. A worker's reported level of commitment to an organization increased .103 points for each point increase in perceptions of horizontal communication. Finally, a significant regression equation was also found for a worker's reported level of commitment to an organization and reported levels of communication with supervisors ( $F(1,121) = 12.861, p < .000$ ), with an  $R^2$  of .096. Participants' general satisfaction score is equal to  $2.042 + .091$  (communication with supervisors) when perceptions of the communication with supervisors within an organization is measured. A worker's reported level of commitment to an organization increased .091 points for each point increase in perceptions of communication with supervisors.

There was also a weak, positive correlation between the perceived level of transparent communication within an organization and feedback ( $r = .381, n = 123, p = .000$ ), perceptions of integration within the organization ( $r = .346, n = 123, p = .000$ ), communication climate ( $r = .454, n = 123, p = .000$ ), horizontal communication across an organization ( $r = .411, n = 123, p = .000$ ), and communication with supervisors ( $r = .318, n = 123, p = .000$ ). These correlations were statistically significant. Thus, a simple linear regression was calculated to predict the perceived level of transparent

communication based on feedback, or perceptions of integration within the organization, communication climate, horizontal communication across an organization, and communication with supervisors.

A significant regression equation was found for the perceived level of transparent communication within an organization and feedback ( $F(1,121) = 20.569, p < .000$ ), with an  $R^2$  of .145. Participants' transparent communication score is equal to  $1.414 + .104$  (feedback) when perceptions of the amount of feedback workers receive about their work is measured. Perceptions of transparent communication increased .104 points for each point increase in perceived feedback. A significant regression equation was also found for perceived level of transparent communication within an organization and perceptions of integration within the organization ( $F(1,121) = 16.474, p < .000$ ), with an  $R^2$  of .120. Participants' transparent communication score is equal to  $1.371 + .101$  (integration) when workers' perceptions of the degree to which they feel integrated within their organizations is measured. Perceptions of transparent communication increased .101 points for each point increase in perceived integration. Likewise, a significant regression equation was found for perceived level of transparent communication within an organization and communication climate within the organization ( $F(1,121) = 31.442, p < .000$ ), with an  $R^2$  of .206. Participants' transparent communication score is equal to  $1.258 + .115$  (communication climate) when perceptions of the perceived communication climate within an organization is measured. Perceptions of transparent communication increased .115 points for each point increase in perceived communication climate. A significant regression equation was also found for perceived level of transparent communication within an organization and horizontal

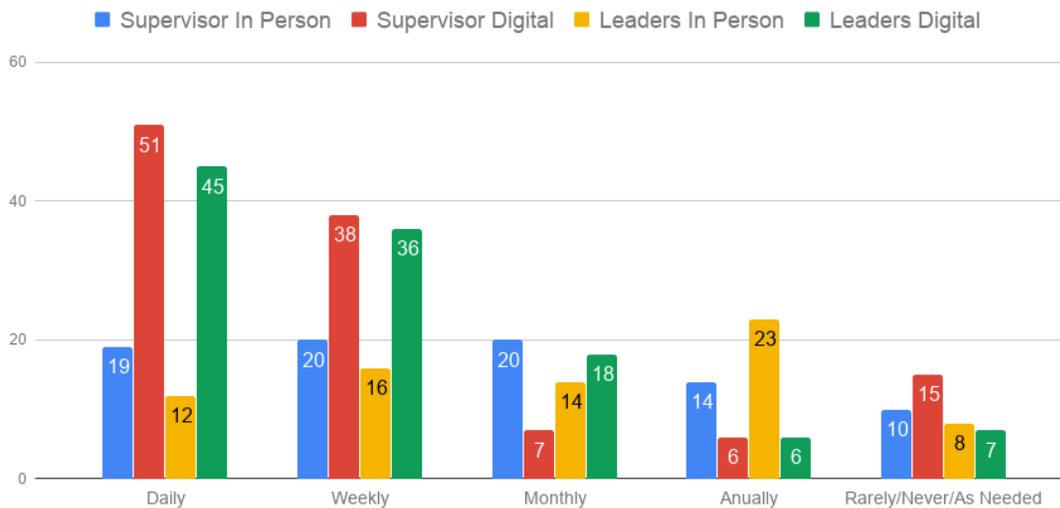
communication across the organization ( $F(1,121) = 24.603, p < .000$ ), with an  $R^2$  of .169. Participants' general satisfaction score is equal to  $1.006 + .124$  (horizontal communication) when perceptions of horizontal communication across an organization is measured. Perceptions of transparent communication increased .124 points for each point increase in perceived horizontal communication across an organization. Finally, a significant regression equation was also found for perceived level of transparent communication within an organization and levels of communication with supervisors ( $F(1,121) = 13.596, p < .000$ ), with an  $R^2$  of .101. Participants' perceptions of transparent communication within an organization is equal to  $1.680 + .083$  (communication with supervisors) when perceptions of the levels of communication with supervisors is measured. Perceptions of transparent communication increased .083 points for each point increase in perceived communication with supervisors.

There was no statistically significant correlation between commitment and frequency of interaction in digital environments between the remote employee and leaders ( $r = .115, n = 123, p = 0.205$ ), frequency of interaction in digital environments between the remote employee and supervisors ( $r = .072, n = 123, p = .426$ ), position title of the remote employee ( $r = .035, n = 123, p = .697$ ), and years the remote employee has been employed ( $r = .012, n = 123, p = 0.893$ ). There was also no statistically significant correlation between general satisfaction and the industry of the employer ( $r = .125, n = 123, p = .169$ ), frequency of interaction in digital environments between the remote worker and leaders ( $r = .088, n = 123, p = .334$ ), frequency of interaction in digital environments between the remote worker and supervisors ( $r = .038, n = 123, p = .677$ ), and position title of the remote employee ( $r = .052, n = 123, p = .565$ ).

However, there was a weak correlation between commitment and transparent communication ( $r = .427$ ,  $n = 123$ ,  $p = .000$ ). There was also a weak correlation between general satisfaction and transparent communication ( $r = .309$ ,  $n = 123$ ,  $p = .001$ ). There was additionally a very weak correlation between transparent communication and age ( $r = .280$ ,  $n = 123$ ,  $p = .002$ ). There was a very weak correlation between transparent communication and years the remote employee has been employed ( $r = .255$ ,  $n = 123$ ,  $p = .004$ ). These correlations were statistically significant.

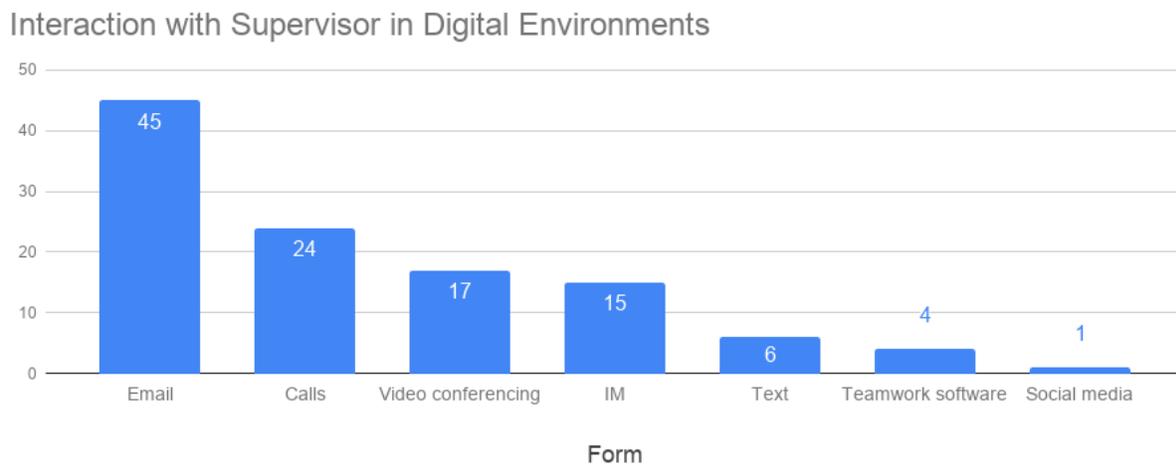
Survey participants indicated the frequency with which they interact with their supervisors and leaders, both in person and using tools in the digital environment. Although overall, it appears that employees interact more often with both their supervisors and leaders in digital environments than in person, it appears that most remote employees frequently communicate with supervisors and leaders (Figure 3).

### Frequency of Interaction with Supervisors/Leaders



**Figure 3. This chart illustrates how often remote workers reported that they interact with their direct supervisors and company leaders both in person and in digital environments. (Supervisor in person:  $n=83$ ; Supervisor digital:  $n=117$ ; Leaders in person:  $n=73$ ; Leaders digital:  $n=112$ )**

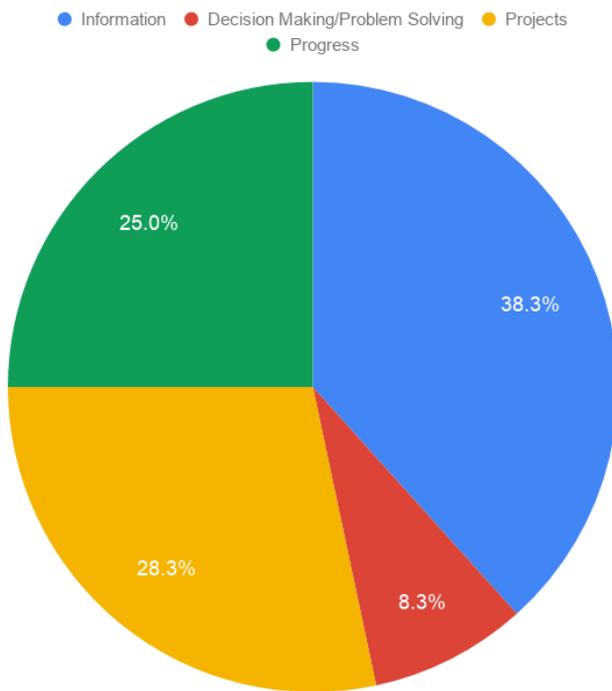
When asked about the nature of interaction with supervisors and leaders, individual respondents applied their own definition into these questions. Respondents commonly responded to the questions in three ways: the form their interaction takes, the mood or qualities of the interaction, or the topic of interaction. Of 112 responses indicating the form of interaction with supervisors in digital environments, 40.2% indicated their interaction took place over email. The second most popular response was phone calls (21.4%), followed by video conferencing (15.2%), instant messaging (13.4%), text messaging (5.4%), teamwork software (3.6%), and social media (0.9%) (Figure 4).



**Figure 4. Form of Interaction with Supervisor in Digital Environments reported by survey participants (n=112)**

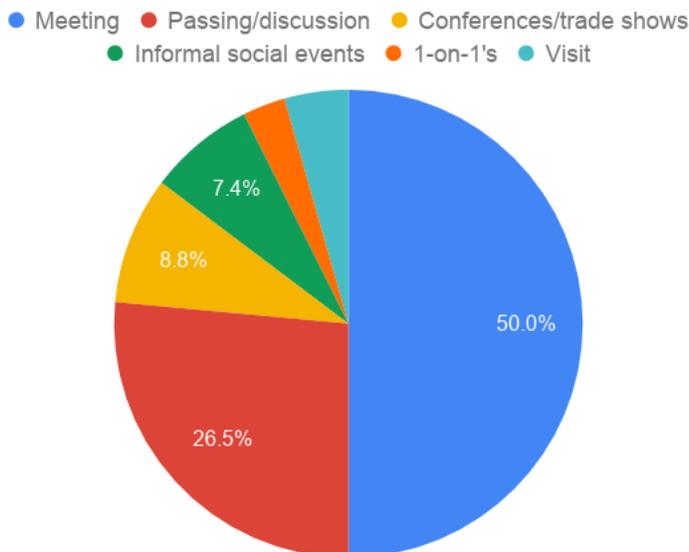
Of 62 responses indicating the topic of interaction in digital environments with remote employees' supervisors, 37.1% referenced information as the topic of discussion. The second most popular response was projects (27.4%) followed by progress (24.2%), decision-making/problem-solving (8.1%), and mentoring (3.2%) (Figure 5).

Topic of Interaction in Digital Environments with Supervisor



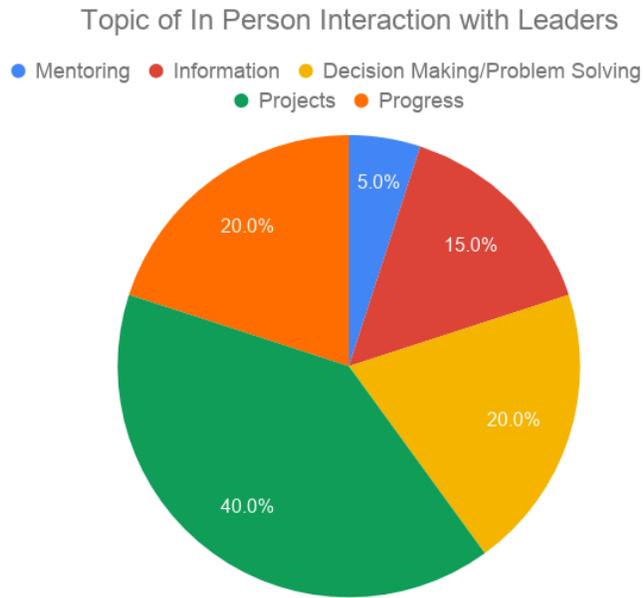
**Figure 5. Topic of Interaction with Supervisor in Digital Environments reported by survey participants (n=62)**

Form of In Person Interaction with Supervisor



**Figure 6. Form of In Person Interaction with Supervisor reported by survey participants (n=68)**

Of 112 responses indicating the form of in-person interaction with supervisors, half (50.0%) of responses indicated meetings were used by their company. This was followed by speaking in passing and other discussions (26.5%), conferences/trade shows (8.8%), informal social events (7.4%), visits (4.4%), and one-on-one's (2.9%) (Figure 6). Of 64 responses that indicated the form of in-person interaction with leaders, almost half (48.4%) took the form of a meeting. The second most popular response was in passing or in the form of a discussion (17.2%). Other less popular forms of interaction made up the remaining 34.4% of responses (Figure 7).

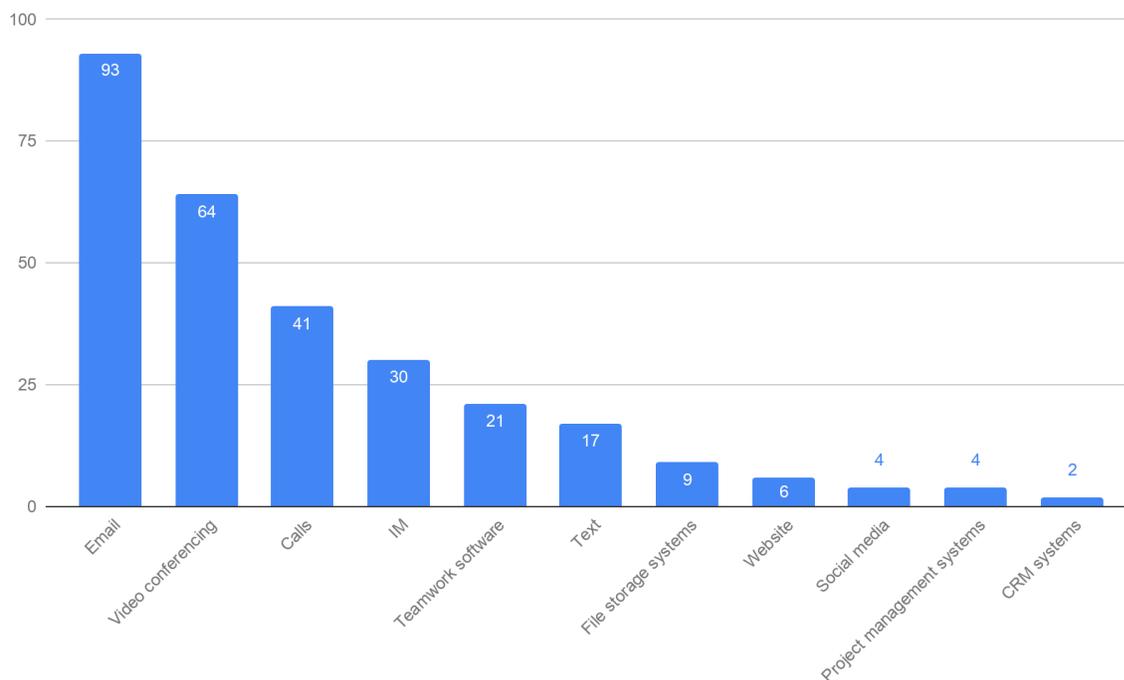


**Figure 7. Form of In Person Interaction with Leaders reported by survey participants (n=64)**

When asked what technologies their companies use for communication, 250 statements were collected from survey respondents. Of those statements, 86 (31.9%) named email as their company’s form of communication. The second most popular response was video conferencing with 61 (22.6%) references. Other common responses were calls (13.7%), instant messaging (11.1%), and teamwork

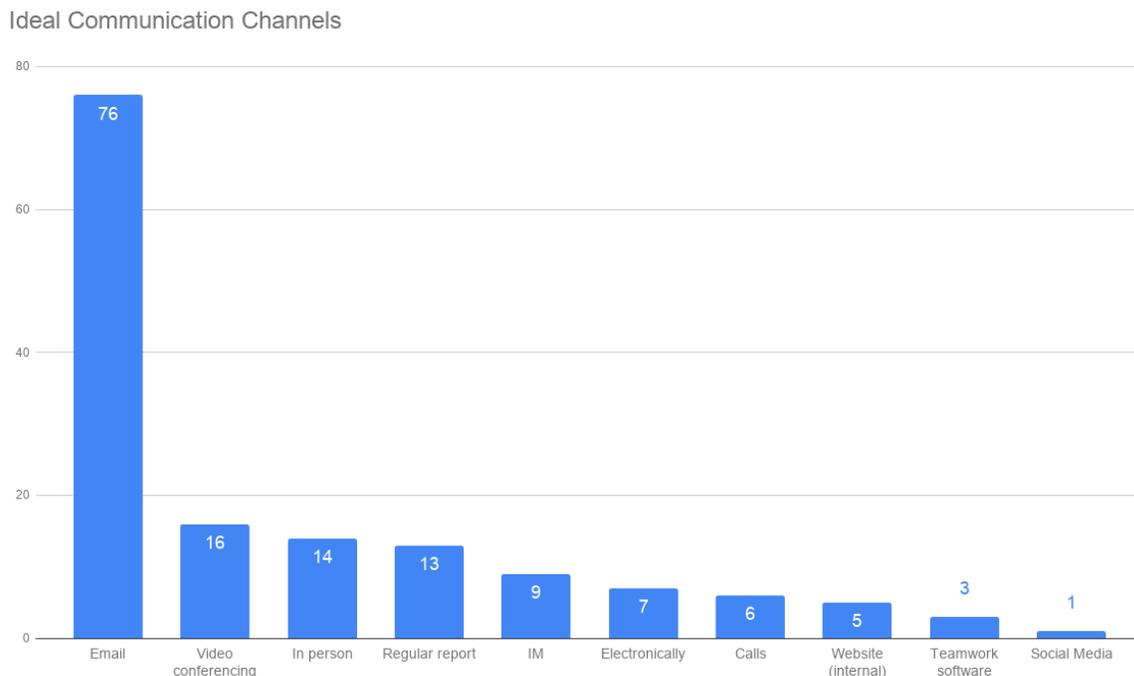
software (6.7%). The remaining 14.0% of statements indicated other less popular forms of technology (Figure 8).

Technologies Used for Communication



**Figure 8. Technologies used for Communication reported by survey participants (n=270 statements about technology)**

In response to several questions, respondents indicated that technological tools affect how they feel about their work and organization. When asked their preferred or ideal method of communication with their company, 150 statements were collected from survey respondents. More than (50.7%) of those statements indicated email as the ideal method of communication. Other responses varied, but 10.7% of responses named video conferencing as an ideal form of communication. The remaining 38.6% of responses indicated various other communication channels (Figure 10). Out of 77 survey statements, 14 and 11 respectively indicated that more video conferencing and improved technology would improve their remote employee experience. For example, Participant 7 stated: “[My company should] use technology to its capability to include real time discussion by remote employees.” Of those who answered whether or not they are satisfied with the technology used by their companies, 105 stated they were satisfied, and nine stated they were unsatisfied (Figure 9).



**Figure 9. Ideal Channels for Communication reported by survey participants (n=150 statements about ideal communication channel)**

In response to several questions related to engagement, many respondents indicated they feel that their organizations fail to consider their needs. Of 77 survey statements about how the remote employee experience could be improved, 12 indicated more effort to accommodate remote workers would help. For example, Participant 93 stated, “The employer needs to give remote employees more attention and make extra effort to maintain contact.” This also extends to appreciation and communication. Participant 57 stated, “Don’t deviate from reminding your employees on a regular basis that they are appreciated and that their work, actions, information, feedback, ideas, etc. all matter.” In response to how interaction could be improved with leaders and supervisors, nine out of 42 survey statements indicated remote workers needed to be a higher priority.

Respondents also indicated that remote workers should be better considered in on-boarding activities. Out of 77 survey statements, 27 indicated that on-boarding should be more organized and/or provide a written document or guide with specific expectations. Eleven of the 77 survey statements indicated that having an initial in-person meeting would also improve onboarding. For example, Participant 4 stated: “[It would have been nice to have] a written paper of what everything was instead of taking my own notes collected from a phone call.” When asked several questions about communication within their organization, respondents provided responses indicating that consistent peer-to-peer and supervisor communication is important to them. For example, Participant 93 stated, “Supervisors need to make an effort to keep in contact with remote staff—it can’t always be me pushing for face time.”

In response to being asked what would improve interaction with leaders and supervisors, 10 out of 42 survey statements indicated that more time in person would help this. When asked about improving the remote employee experience, 74 out of 97 survey phrases were communication related. Sixteen out of 97 survey phrases indicated that communication systems should be improved. Twelve of those 97 survey statements indicated more time meeting in-person would improve their experience. Ten of the 97 survey statements indicated that more or better quality interaction with peers would improve their working experience. For example, Participant 46 stated “Improved communication from other employees” would improve the remote experience. Participant 59 stated: “More opportunities to remotely participate in committee work and meetings” would improve the remote experience. Participant 82 stated “more company trips to get to know coworkers” would improve the remote work experience. Participant 104 stated “more group events to build stronger employee relationships within our team” would improve the experience. Participant 111 stated:

It would be nice to feel more connected to staff, as people in an office environment are. Being able to connect with other remote employees would be nice. Being alerted to office changes would be nice too. My organization had 2 employees leave recently and I didn't know until I asked for an update on a project.

### **Interview and Design Thinking Session Results**

Responses to interview questions centered on three main areas of focus. Participants often addressed elements of their remote work that contributes to or detracts from their feelings of engagement and value to the company. Additionally, they frequently commented on how technology affects their work. And finally, most

respondents focused on the role of communication with peers and supervisors in their daily work.

### *Value and engagement*

In response to several questions related to engagement, many respondents indicated they that their organizations fail to consider their needs. For example, Interviewee 3 stated, “I do go to campus once a year on my own dime because I find it very important that at least once a year they see I’m a real person.” This interviewee also noted that “The other thing that would beneficial to my personal experience is that people don’t treat me differently. Um they tend to sometimes write me out of policies by saying ‘on-site’ only...My perception is that I have to work extra hard to offer my services to attend anything I can that’s ever offered remotely to really compensate for not being there.” Additionally, design thinking session Participant 3 talked about how those in his organization do not listen to him as much as on-site employees: “As a remote employee I feel that my voice gets heard less often.”

### *The role of technology*

In response to several questions, respondents indicated that technological tools impact how they feel about their work and organization. For example, Interviewee 2 explained that technology could be used to provide remote workers equal opportunities to use their skills:

Part of my promotion, part of, you know, the work that they’re going to review to determine if I should be promoted is based on university-wide service. And, my options are very limited. Because like I said I had an opportunity, it would have been a great one, and the offer was rescinded when I was, cause I was just straightforward. I said ‘this sounds like a great thing, something I could really contribute to and, but here’s the caveat, I don’t live in Indiana. I don’t live anywhere close to Indiana.’ So, and then I explained that I do attend committee

meetings in my department and that I'm not just a fly on the wall, I actually engage using Skype or some other video conferencing software. And that it's perfectly doable and I'd be more than happy to do it if they were willing to, you know, plug me in, make sure that I could be connected for each meeting. Apparently, they have decided that was, that was too much. I like more opportunity. I'm willing and able. The technology is there. I think a lot of them have bad experiences with you know, they've had spotty Skype connections. So, they're thinking of it as a burden. Like oh this guy thinks he can participate but really, it's just going to be us messing around with the computer. Which, in my experience doesn't happen that frequently anymore. I'm sure in the early days with Skype, the software wasn't yet there. And, and the internet speeds were not keeping up with it. But I make sure I have really fast internet...I can get into their shoes and see what they're probably thinking with a decision like that, but on the other hand, is it that much of a burden? Would it really be that much of a problem? I don't think so. But I'm not given the opportunity to prove that.

Likewise, Interviewee 10 said:

I would like to see video conferencing more embraced. I think that you know, you can get, I think you can get complacent...I think when I managed 10 or 12 people I tried to get on video as often as possible and I really didn't care where they were but I cared about...I need to see this person and their mannerisms and to get a good read of people. It works better when you're a manager when you actually see them. I think that companies can do better to embrace that.

This idea was also discussed in the design thinking session. Participant 2 said:

I join a lot of meetings where folks are live in person and I might be the one remote person on a meeting...one counterproductive activity is when the person that is facilitating those meetings doesn't consider distance and the modality and the affordances of the technology. So, it's counterproductive in that I can't often engage in the way that I'd like to. Sometimes I feel like people forget I'm part of the meeting.

Participant 5 added that "There are poor teleconferencing abilities at the office" that lead to it being "hard for me to hear everyone that is talking in a meeting." Meanwhile,

Participant 4 mentioned the lack of use of technological tools:

One of the things that our organization struggles with as far as communication perspective are the different tools we use for communication. We have employees in 23 different states and we're all used to conference calls, WebEx, GoToMeetings and all those sorts of things, but we do have some folks who don't utilize some of our internal tools such as Skype or Microsoft Teams...that does

make things difficult and if either one of those, or even our email. If our email, our TEAM, or our Skype is down, we're all pretty stuck.

### *The role of communication*

When asked several questions about communication within their organization, respondents provided responses indicating that consistent peer-to-peer and supervisor communication is important to them. For example, Interviewee 10 said:

I think that it, you have to, you have to, I don't know how to say this exactly, but you have to sell yourself in situations. Especially like performance review times and um, you know, we have mid-year check ins as well with editors. And they're direct reporters. You really have to kind of sell yourself...I think that yeah, with self-assessments and what not, but on a daily basis you know, I update my boss on what I'm doing. You know, and how I'm doing it. And sometimes I feel like he doesn't want to hear it, and sometimes he's all over it. You just have to really try to be as consistent with that and make sure they know what you're doing. Because otherwise they don't.

In response to being asked what would improve interaction with leaders and supervisors, Interviewee 10 said:

You also kind of need to connect with them physically. I know that sounds a little weird, but it helps to have team off-sites or team meetings in the same town. That's something we would do as a team at least once a year or maybe twice to get people together and actually be together. That's an extra expense obviously but to get people together to see them face-to-face, I think that is a huge thing.

This idea was also approached in the design thinking session writing activity by Participant 3. This participant wrote: "I would like greater opportunities to work with colleagues on collaborative projects."

## Chapter 5: Discussion

This thesis is built on a study that explores remote workers' perceptions of communication in their organizations, as well as how those perceptions affect feelings of engagement and value. This study included a survey, interviews, and a focus group designed to explore this relationship. The results of the present study verified that remote employees appreciated the flexibility and control remote work gave them to integrate their personal and professional goals. However, although they appreciated the flexibility, there was a need for improved communication to further feelings of value and engagement. Additionally, this study identified the challenges remote workers face in their work.

Five key themes emerged from this research: 1) consideration of remote workers by organizations leads to feelings of engagement and value; 2) technological tools affect how remote workers feel about their organizations and work; 3) effective communication is the most important factor for remote workers to feel valued and engaged; 4) specific dimensions of communication predict remote workers' general satisfaction with their work; and 5) remote employees who perceive communication as transparent are satisfied by the communication in their organization.

### **Consideration of the needs of remote workers by organizations leads to feelings of engagement and value.**

Employees consistently reported that consideration of their needs by their organizations led to increased engagement and feelings of value. The results of the survey data, interviews, and focus group all independently supported this theme. Many survey respondents noted the need for more attention, feedback, and interaction from their supervisors and more interaction with their peers. Interviewees indicated that their

organizations often failed to consider their needs. Focus group participants overwhelmingly reported that they felt that their voice was less heard than those who work in person. These findings support Koehne et al.'s (2012) assertion that remote workers, as a result of being further in physical distance from the workplace, often feel they must overcompensate to make themselves visible and heard. They also support Kelliher and Anderson's (2010) assertion that those who work remotely experience job intensification. These results also provide insights that suggest that organizations must consider how remote employees engage with their peers and supervisors. Many times, participants noted that their organizations did not consider them in daily interactions and exchanges of information. In addition, these remote workers often felt excluded from various activities. These results confirm the assertion by Lipmanowicz and McCandless (2013) that involving individuals across an organization in activities allows for connections across levels and functions in the organizations and therefore reduces the silos experienced.

This means that as soon as employees are transitioned to remote work or are onboarded as remote workers, supervisors must spend extra time each week checking in with these individuals. Supervisors and peers must consider the schedules of remote workers when scheduling meetings. Supervisors and peers also must not forget about their remote colleagues and try to include them in any way possible. Even though remote employees can't attend in-person meetings or events, peers can email them to check in and say hello. The organization can also initiate retreats or events that require remote employee attendance. Although remote employees enjoy the flexibility of

working from home, including them in occasional events make them feel a connection with their colleagues and supervisors.

**Technological tools affect how remote workers feel about their organizations and work.**

Based on both the survey and interviews, remote employees primarily used email and phone calls to communicate with their organizations, but they wanted more use of video conferencing and in-person meetings. This finding supports Dahl et al.'s (2011) assertion that managers must sustain their organizations by viewing technology as an enabler while also considering the needs of employees. These findings also support White et al.'s (2010) assertion that face-to-face communication remains valued and can be the preferred method of communication in the workplace. However, there is some discrepancy about Mishra et al.'s (2014) assertion that it is the most preferred and effective method of communication. While the participants of the present study appreciated the extra time afforded by the conveniences of remote work, they also noted that they appreciated meeting in person occasionally, and through video conferencing often. While there was no clear consensus among participants to suggest an exact formula for the interplay of face-to-face communication versus video conferencing or communication that happened remotely, it is important for organizations to acknowledge that each of these methods of communication serve an important purpose and value for remote workers. As Koehne et al. (2010) asserted, participants said that providing tools for employees to connect with their teams that closely align with the employee's personal uses of devices makes them feel more satisfied.

Survey participants stated that improved technology impacted their employee experience. Their ideal methods of communication were email and video conferencing.

Interviewees mentioned technology as a way to provide remote workers with equal opportunities as their peers. Three of the five participants of the design thinking session discussed how their organizations either had poor teleconferencing abilities, did not consider remote workers when using video conferencing or did not use the technological tools they had to communicate with remote workers. Based on all study results, it was obvious that participants cared about the technological tools that their organizations used to communicate with them. These results may also apply to organizations without remote workers.

**Communication is the most important predictor of feelings of value and engagement.**

Survey participants overwhelmingly cited communication-related changes when asked how to improve their remote work experiences. Both interviewees and focus group participants discussed how they value the interactions they had with peers and supervisors and wish there were more of these interactions. Participants repeatedly discussed communication when asked about various factors including their feelings of appreciation, alignment of their values with their organization's values, and how to improve their experience as a remote employee. The existing literature on the subject did not identify communication as the most important predictor of feelings of value and engagement, however, Welch and Jackson (2007) did identify clear, consistent, and continuous communication as a way to build employee engagement. Survey respondents, interviewees, and design thinking session participants consistently referenced their communication with their peers and supervisors and how that made them feel about their work.

This means that communication must take priority in organizations with remote workers. In organizations with remote workers, communication can be scheduled in frequent intervals with supervisors and teams in order to ensure the remote employee(s) are included in information sharing. This frequency can be daily or weekly depending on the type of work. Another way to include remote employees in information sharing is to have them in on all team meetings using video conferencing. Supervisors and team members can express appreciation for their remote counterparts as often as possible. These results suggest that remote employees feel that their own values align with their organizations when information is communicated often to them regarding company changes, feedback, and team decisions and challenges. As many scholars noted, the two key roles of internal communication of information sharing and establishing community were verified in this research (Francis, 1989; Elving, 2005; Friedl & Verčič, 2011; Karanges, Johnston, Beatson & Lings, 2015). These findings show that organizations must ensure they have working, effective communication systems in place when they hire or transition to remote employees. These results may be generalizable to all organizations with remote employees.

**Particular factors of communication predict remote workers' general satisfaction with their work.**

According to the correlations provided by the survey, the higher a participant ranked the personal feedback, organizational integration, communication climate, and relationship with supervisor, the higher their general satisfaction. Additionally, in interviews, some participants referenced the idea of positive feedback making them feel appreciated, and many participants discussed the idea that they communicate often

with their supervisor and therefore feel confident in the decisions of their supervisor, whereas they do not have much communication with their organization leaders and do not feel confident in their decisions. Focus group participants discussed how minimal communication with their supervisor could make their work miserable. They also discussed that their peers and supervisors are often unaware of their needs. These results support Jablin and Putnam's (2001) assertions that those who are given more information also have more power in their organizations and that feeling organizationally integrated and socially connected increases job satisfaction. When participants had a strong relationship with their supervisors and felt that they were understood by their supervisors, they were more satisfied. In addition, this finding supports Argenti's (1998) assertion that managers must know their employees to increase their satisfaction. Organizational integration leading to increased satisfaction as identified by the surveys and the interviewee's responses about how they feel their values align with their organization support Meyer & Allen's (1991) and Welch & Jackson's (2007) assertions that employees become further committed when their values align with those of the organization.

These findings suggest that general satisfaction of remote workers can be improved by organizations addressing specific aspects of communication. Organizations with remote workers can schedule more frequent feedback for those workers than those who work in person. Employees that work in-person get daily feedback by talking with their teams and supervisors, but remote employees do not have these daily opportunities for feedback. Another way to do this would be to schedule monthly performance reviews. Frequent communication of any form with a

remote worker's supervisor also improves the remote worker's general satisfaction. Daily check-ins can provide a way for supervisors to keep contact with remote employees. Doing these check-ins over the phone or using video conferencing might further improve employee satisfaction. Organizations must make an effort to show remote workers that their values remain strong. Remote employees do not get to see the decisions of leadership take effect each day within the organization, so supervisors and peers must tell remote employees about these changes. Organizations can provide further opportunities for remote workers to become involved and use their skills in order to communicate the organizational values.

**Remote employees who perceive communication as transparent are satisfied by the communication in their organization.**

The correlations within survey responses indicated that those who perceived communication in their organization as transparent were also very satisfied with personal feedback, organizational integration, communication climate, horizontal communication, and relationship with supervisor. These are all the aspects of communication these participants were asked to rank. One interviewee discussed how having conversations and being encouraged to push back in these conversations made this individual feel appreciated. In the focus group, participants discussed how at times their teams were out of tune and did not always listen deeply, reflect, and make sense of challenges together. They indicated that improving this aspect of communication would improve their work experience. These results are supported by Mishra et al. (2014), as well as numerous other scholars, who assert that strong internal communication leads to a culture of transparency that engages employees.

These results mean that remote employees feel their organizations do not have transparent communication if they do not receive frequent and informative contact with others in the organization. Organizations that ask directly for feedback and suggestions for improvement and put these suggestions into practice as often as possible are seen as organizations with transparent communication. When teams and work groups include their remote counterparts in listening to each other and making sense of challenges, remote employees feel satisfied with the communication in their organizations. The more an organization communicates with remote employees, the more satisfied the remote employees are likely to feel with the organization.

### **Limitations & Future Work**

Although there was statistical significance with most of the correlations, it's possible that a larger sample set would be necessary to get more accurate results. Some of the survey questions as written were likely ambiguous for some participants causing a range of answers that were not comparable. In those cases, the responses to these questions were categorized and then analyzed to ensure accuracy. Future study should include more concrete closed-ended questions to eliminate the chance that participants would interpret questions differently. Additionally, future study of communication in remote workers could separate remote workers based on the number of hours spent working remotely each week.

Future work should focus on how personal perspectives and characteristics of remote employees influence their perceptions of their engagement and value. This work could confirm or deny assertions by O'Neill et al. (2014) that the personal qualities of

extroversion and agreeableness lead to more socialization, which leads to engagement. A longitudinal study of the engagement and value of remote employees due to communication methods might also yield additional insights by studying remote workers throughout various phases of their lives and careers. Although this thesis studied the channels used by organizations for communication, future work could explore what content and detail should be included to meet employee needs. This would address the need for information adequacy described by White et al. (2010). Future work could also focus on the transition of workers into the remote workplace and the five-step plan that Akkirman and Harris (2004) suggest. This thesis did not study the perceptions of in-person employees, supervisors, and leaders relating to remote workers. Studying these perceptions would provide further insights into the bi-directional nature of internal communication between remote employees and their organizations and could provide further study on Kelliher and Anderson's (2010) assertion that remote employees might feel less grateful for their accommodations and change their level of effort.

## **Conclusion**

This thesis analyzes the perceptions of remote employees in reference to communication methods in their organization. Additionally, it explains that communication is the most important predictor of engagement and value in remote employees. This research fills the gap in determining the employee preferences for communication channels. It also provides suggestions for organizations to maintain successful communication with remote workers. If organizations provide training for all employees, supervisors, and leaders on how to communicate effectively with remote workers, they can initiate the practices necessary to both engage and provide value to

remote workers. This thesis explored the technological tools remote employees prefer for communication within their organizations. The results emphasize the importance of transparent peer-to-peer and supervisor communication with remote employees. They suggest that using video conferencing effectively is one of the most desired tools by remote employees.

## References

- Akkirman, A. D., & Harris, D. L. (2005). Organizational communication satisfaction in the virtual workplace. *Journal of management development*, 24(5), 397-409.
- Argenti, P. A. (1998). Strategic employee communications. *Human Resource Management*, 37(3/4), 199.
- Bootcamp bootleg. (2015). 1st ed. Stanford University, pp.1-4.
- Brown, T. (2009). *Change by Design* (1st edition). Harper Collins.
- Buchanan, R. (1992). Wicked problems in design thinking. *Design Issues*, 8(2), 5–21.  
<https://doi.org/10.2307/1511637>
- Cascio, W. F. (2000). Managing a virtual workplace. *Academy of Management Perspectives*, 14(3), 81–90. <https://doi.org/10.5465/ame.2000.4468068>
- Chokshi, N. (2017). Out of the office: More people are working remotely, survey finds. *The New York Times*. Retrieved from  
<https://www.nytimes.com/2017/02/15/us/remote-workers-work-from-home.html>
- Cooper, C., & Kurland, N. (2002). Telecommuting, professional isolation, and employee development in public and private organizations. *Journal of Organizational Behavior - Wiley Online Library*.  
<https://onlinelibrary.wiley.com/doi/abs/10.1002/job.145>
- Cooper-Hakim, A., & Viswesvaran, C. (2005). The construct of work commitment: Testing an integrative framework. *Psychological Bulletin*, 131, 241–259.
- Dahl, A., Lawrence, J., & Pierce, J. (2011). Building an innovation community. *Research-Technology Management*, 54(5), 19–27.  
<https://doi.org/10.5437/08956308X5405006>

- Downs, C. W., & Hazen, M. D. (1977). A factor analytic study of communication satisfaction. *The Journal of Business Communication* (1973), 14(3), 63-73.
- Elsbach, K. D., & Stigliani, I. (2018). Design thinking and organizational culture: A review and framework for future research. *Journal of Management*, 44(6), 2274–2306. <https://doi.org/10.1177/0149206317744252>
- Elving, W. J. L. (2005). The role of communication in organisational change. *Corporate Communications: An International Journal*, 10(2), 129–138.
- Francis, D. (1989), *Organisational communication*. Gower, Aldershot.
- Friedl, J., & Verčič, A. T. (2011). Media preferences of digital natives' internal communication: A pilot study. *Public Relations Review*, 37(1), 84–86. <https://doi.org/10.1016/j.pubrev.2010.12.004>
- Johns, T. & Gratton, L. (2013). The third wave of virtual work. *Harvard Business Review*, 91(1), 66–73.
- Handy, C. (1995). Trust and the virtual organization. *Harvard Business Review*, 73(3), 40-9.
- Holton, J. (2001). Building trust and collaboration in a virtual team. *Team Performance Management*, 7(3,4), 36-47.
- Igbaria, M., & Guimaraes, T. (1999). Exploring differences in employee turnover intentions and its determinants among telecommuters and non-telecommuters. *Journal of Management Information Systems*, 16(1), 147–164. <https://doi.org/10.1080/07421222.1999.11518237>
- Jablin, F., & Putnam, L. (2001). The new handbook of organizational communication: Advances in theory, research, and methods. *Sage Publications*.

- Jensen, M. (2003). Organizational communication: A review. *R&D Report*, 1, 2003.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692–724.  
<https://doi.org/10.5465/256287>
- Karanges, E., Johnston, K., Beatson, A., & Lings, I. (2015). The influence of internal communication on employee engagement: A pilot study. *Public Relations Review*, 41(1), 129-131.
- Kariuki, N. W. (2015). Role of job design on employee engagement in private universities in Kenya: A case of Presbyterian University of East Africa. *Strategic Journal of Business & Change Management*, 2(2). Retrieved from  
<http://strategicjournals.com/index.php/journal/article/view/132>
- Kelliher, C., & Anderson, D. (2008). For better or for worse? An analysis of how flexible working practices influence employees' perceptions of job quality. *The International Journal of Human Resource Management*, 19(3), 419–431.  
<https://doi.org/10.1080/09585190801895502>
- Kelliher, C., & Anderson, D. (2010). Doing more with less? Flexible working practices and the intensification of work. *Human Relations*, 63(1), 83–106.  
<https://doi.org/10.1177/0018726709349199>
- Kitchen, P. J. (1997) PR: Principles and practice. *London: Thomson Business*.
- Koehne, B., Shih, P. C., & Olson, J. S. (2012). Remote and alone: Coping with being the remote member on the team. *In Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work* (pp. 1257–1266). New York, NY, USA: ACM. <https://doi.org/10.1145/2145204.2145393>

Kolko, J. (2015). Design thinking comes of age.

Liedtka, J. (2015). Perspective: Linking design thinking with innovation outcomes through cognitive bias reduction. *Journal of Product Innovation Management*, 32(6), 925–938. <https://doi.org/10.1111/jpim.12163>

Lipmanowicz, H., & McCandless, K. (2013). *The Surprising Power of Liberating Structures*.

Macey, W. H., & Schneider, B. (n.d.). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1), 3–30. <https://doi.org/10.1111/j.1754-9434.2007.0002.x>

Martins, L. L., Gilson, L. L., & Maynard, M. T. (2004). Virtual teams: What do we know and where do we go from here? *Journal of Management*, 30(6), 805–835. <https://doi.org/10.1016/j.jm.2004.05.002>

Men, L. R., & Stacks, D. (2014). The effects of authentic leadership on strategic internal communication and employee-organization relationships. *Journal of Public Relations Research*, 26(4), 301–324. <https://doi.org/10.1080/1062726X.2014.908720>

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61–89. [https://doi.org/10.1016/1053-4822\(91\)90011-Z](https://doi.org/10.1016/1053-4822(91)90011-Z)

McCready, A., Lockhart, C. and Sieyes, J. (2001). Telemanaging. *Management Services*, 45(12), 14-16.

- Mishra, K., Boynton, L., & Mishra, A. (2014). Driving employee engagement: The expanded role of internal communications. *International Journal of Business Communication*, 51(2), 183–202. <https://doi.org/10.1177/2329488414525399>
- Nilles, J. M. (1998). Managing telework: Strategies for managing the virtual workforce. *Wiley* (6).
- O'Neill, T. A., Hambley, L. A., & Chatellier, G. S. (2014). Cyberslacking, engagement, and personality in distributed work environments. *Computers in Human Behavior*, 40, 152–160. <https://doi.org/10.1016/j.chb.2014.08.005>
- Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: A review of current literature and directions for future research. *SIGMIS Database*, 35(1), 6–36. <https://doi.org/10.1145/968464.968467>
- Smidts, A., Pruyn, A. T. H. & Van Riel, C. B. M. (2001). The impact of employee communication and perceived external prestige on organizational identification, *Academy of Management Journal*, 44(5), pp. 1051–1062.
- Staples, S., Hulland, J., & Higgins, C. (1999). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Organization Science*, 10(6), 758–776.
- Staples, S. (2001a). A study of remote workers and their differences from non-remote workers. *Journal of End User Computing*, 13(2), 3-14.
- Staples, D. S. (2001b). Making remote workers effective. *Telecommuting and Virtual Offices: Issues and Opportunities*, 186–212. <https://doi.org/10.4018/978-1-878289-79-7.ch011>

The predictive relationship between organizational... (n.d.). Retrieved June 6, 2018,  
from

<https://www.researchgate.net/publication/313648755> The Predictive Relationship between Organizational Communication and Climate in Universities

Unzicker, D., Clow, K. E. & Babakus, E. (2000) The role of organizational communications on employee perceptions of a firm. *Journal of Professional Services Marketing*, 21(2), pp. 87–103

Verčič, A., Verčič, D., & Sriramesh, K. (2012). Internal communication: Definition, parameters, and the future. *Public Relations Review*, 38(2), 223–230.  
<https://doi.org/10.1016/j.pubrev.2011.12.019>

Vinsel, L. (2018). Design thinking is a boondoggle: Its adherents think it will save higher ed. They're delusional. *The Chronicle of Higher Education*, 64(34).

Warr, P. (1987). Work, unemployment, and mental health. *Oxford University Press*.

Welch, M., & Jackson, P. R. (2007). Rethinking internal communication: a stakeholder approach. *Corporate Communications: An International Journal*, 12(2), 177–198.  
<https://doi.org/10.1108/13563280710744847>

Welch, M. (2012). Appropriateness and acceptability: Employee perspectives of internal communication. *Public Relations Review*, 38(2), 246–254.  
<https://doi.org/10.1016/j.pubrev.2011.12.017>

White, C., Vanc, A., & Stafford, G. (2010). Internal communication, information satisfaction, and sense of community: The Effect of Personal Influence. *Journal of Public Relations Research*, 22(1), 65–84.  
<https://doi.org/10.1080/10627260903170985>

## Appendix A

- I agree (1)
- I do not agree (2)

Q2 Please indicate your age.

- 18-24 (1)
- 25-29 (2)
- 30-34 (3)
- 35-39 (4)
- 40-44 (5)
- 45-49 (6)
- 50-54 (7)
- 55-59 (8)
- 60-64 (9)
- 65-69 (10)
- 70+ (11)
- Prefer not to answer (12)

Q5 Please indicate your gender.

- Male (1)
- Female (2)
- Non-binary (3)
- Other (4)
- Prefer not to answer (5)

Q6 How many years have you been employed by your organization?

- ▼ Less than one year (1) ... 50+ years (15)

Q7 What is your position title?

Q9 Are you married?

- Yes (1)
- No (2)
- Prefer not to answer (3)

Q10 Do you have any children?

- Yes (1)
- No (2)

Q28 If so, how many?

Q11 What is the name of your employer?

Q12 Do you work within a department?

- Yes (4)
- No (5)

Q51 If yes, which department?

Q52 The following statements are intended to measure your level of satisfaction with specific aspects of working remotely. Please complete the rating scale for each item.

Personal Feedback

	Very dissatisfied (1)	Moderately dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Moderately satisfied (4)	Very satisfied (5)
Information about how my job compares with others (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Information about how I am being judged (2)	<input type="radio"/>				
Recognition of my efforts (3)	<input type="radio"/>				
Reports on how problems in my job are being handled (4)	<input type="radio"/>				
Extent to which my superiors know and understand the problems faced by subordinates (5)	<input type="radio"/>				

Q54 Organizational integration

	Very dissatisfied (1)	Moderately dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Moderately satisfied (4)	Very satisfied (5)
Information about my progress in my job (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personnel news (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information about departmental policies and goals (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Information about the requirements of my job (4)	<input type="radio"/>				
Information about employee benefits and pay (5)	<input type="radio"/>				

Q55 Communication Climate

	Very dissatisfied (1)	Moderately dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Moderately satisfied (4)	Very satisfied (5)
Extent to which company communication motivates and stimulates an enthusiasm for meeting its goals (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which the people in my organization have great ability as communicators (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which the company's communication makes me identify with it or feel a vital part of it (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Extent to which I receive on time the information needed to do my job (4)	<input type="radio"/>				
Extent to which conflicts are handled appropriately through proper communication channels (5)	<input type="radio"/>				

Q56 Horizontal Communication

	Very dissatisfied (1)	Moderately dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Moderately satisfied (4)	Very satisfied (5)
Extent to which the grapevine is active in our organization (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which horizontal communication with other employees is accurate and free-flowing (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which communication practices are adaptable to emergencies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Extent to which my work group is compatible (4)	<input type="radio"/>				
Extent to which informal communication is active and accurate (5)	<input type="radio"/>				

Q57 Relationship with supervisor

	Very dissatisfied (1)	Moderately dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Moderately satisfied (4)	Very satisfied (5)
Extent to which my supervisor listens and pays attention to me (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which my supervisor offers guidance for solving job-related problems (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which my supervisor trusts me (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which my supervisor is open to ideas (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which informal communication is active and accurate (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21 Answer the questions below based on your remote work experience.

	Very dissatisfied (1)	Moderately dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Moderately satisfied (4)	Very satisfied (5)
Overall, how satisfied are you with your job? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When you first began working with your organization, how satisfied were you with the on-boarding process? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q22 Do you feel that communication at your organization is transparent?

	Very transparent (1)	Moderately transparent (2)	Neither transparent nor not transparent (3)	Moderately not transparent (4)	Very not transparent (5)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23 How committed do you feel to your organization?

	Very committed (1)	Moderately committed (2)	Neither committed nor uncommitted (3)	Moderately uncommitted (4)	Very uncommitted (5)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q24 Do your organization leaders interact with you in person?

- Yes (4)
- No (5)

Q58 Please describe the nature of this interaction.

Q26 Are you satisfied with the amount of in-person interaction you have with your organization leaders?

- Yes (1)
- No (2)

Q27 If no, how could this be improved?

Q29 How often do your organization leaders interact with you in digital environments (i.e. email, video conferencing, etc.)?

Q30 Are you satisfied with the amount of online interaction you have with your organization leaders?

- Yes (1)
- No (2)

Q31 If no, how could this be improved?

Q32 How would you ideally prefer organization news and information to be communicated?

Q33 If you had to categorize your feelings about continuing to work at your organization in one of the following statements, which would you choose?

- I want to continue working for my organization. (1)
- I need to continue working for my organization. (2)
- I ought to continue working for my organization. (3)

Q34 Does your direct supervisor interact with you in-person?

- Yes (4)

- No (5)

Q59 If yes, how often?

Q35 Please describe the nature of this interaction.

Q38 Are you satisfied with the amount of in-person interaction you have with your direct supervisor?

- Yes (1)
- No (2)

Q36 If no, how could this be improved?

Q61 Does your direct supervisor interact with you in digital environments (i.e. email, video conferencing, etc.)?

- Yes (4)
- No (5)

Q63 If yes, how often?

Q62 Please describe the nature of this interaction.

Q64 Are you satisfied with the amount of online interaction you have with your direct supervisor?

- Yes (1)
- No (2)

Q65 If no, how could this be improved?

Q41 How could the on-boarding process be improved?

Q42 What technologies do you use for communication in your organization?

Q43 Are you satisfied with these technologies?

- Yes (1)

- No (2)

Q44 If no, why not?

Q45 What other suggestions do you have that might help improve your experience as a remote employee?

Q46 Would you be willing to participate in a design thinking focus group in order to provide feedback about your experience as a remote employee?

- Yes (1)
- No (2)

Q47 If so, please provide your email address.

Q48 Would you be willing to participate in an interview to help provide feedback about your experience as a remote employee?

- Yes (1)
- No (2)

Q50 If so, please provide your email address.

## Appendix B

How many hours each week do you work remotely?

Do you work odd hours, that is, do you work outside the 8 a.m. to 6 p.m. hours?

Do you take your work with you when you go on vacation?

Do you feel as if you are socially connected in your organization?

If no, why not?

Do you feel that your organization is a good environment to take risks?

If no, why not?

Do you feel that your organization is supportive of your own personal goals?

If no, why not?

Do you feel confident in the decisions made by leaders of your organization?

If no, why not?

Do you feel that you gain positive work experience in your current role?

If no, why not?

Do you feel that the values of your organization align with your own personal values?

If no, why not?

Do you feel appreciated in your role in your organization?

If no, why not?

What other suggestions do you have that might help improve your experience working remotely for your organization?

Would you be willing to participate in a design thinking focus group in order to help provide feedback about your experience working remotely for your organization?

## Appendix C

Hello, everyone! Thank you for being here today! I'm so appreciative for your help with my research on remote workers. My name is Alexis Kiesel, and I am an EMDD grad student at Ball State University. I'm trying to research the way communication impacts the engagement and value remote workers feel.

Thank you all for completing the informed consent document ahead of this session. If for any reason you feel uncomfortable or wish to quit the focus group, feel free to log out.

Please make sure you have a pen or pencil and a few pieces of paper in front of you.

We will have two different activities today. I will walk you through each step of the activities.

### *TRIZ*

We are going to go ahead begin our first activity.

You are going to make a list of things that would make communication miserable in respect to your remote work.

Go ahead and do that now. I am going to put up the prompt on the screen so you can see it while working. (1)

Now, go down your list item by item and ask yourself: Is there anything going on in my work that makes communication miserable? This likely takes the form of a counterproductive activity in reference to your work communication.

Be brutally honest to make a second list of all your counterproductive activities. I will put this prompt on the screen as well while you write. (2)

Now, go through the items on your second list and decide what first steps will help you stop creating these counterproductive activities. Write those down. I will also put this on the screen. (3)

Now, we'll share some of our ideas. I'll say each participant's name, and when I call your name, please share one of your items with us. Start by telling us what the counterproductive activity is, why it's counterproductive, and what the first steps will be to help stop it. (4)

Please keep the papers you wrote on. I will ask you to share them with me later. Now, we will move on to the second activity.

### *Generative Relationships STAR:*

For this activity, you will be assessing your work group or team.

First, you will answer some questions about your work group or team.

I will put the questions you should answer on the screen. (5)

S: How diverse is my team? Do we draw out our diverse perspectives among members?

T: How well are we in tune with each other?

A: How much do we act together?

R: How important is it that we work together? How clear is our purpose?

Now, use the example graphic and descriptions on the screen to pinpoint where you feel that each of the four factors is for you. Just draw your own star and put the points on that star. (6)

Now, look at where you placed the points on your star. Are there any that are less than desirable and could be better?

Brainstorm ideas as to how you could boost the areas that need attention or aren't quite where you want them to be.

Now, I would like you to each share with the group where you ranked your organization on each factor, and what could be done to improve that. (8)

### *Closing*

Thank you all for your time today. I thank you from the bottom of my heart for your insights and reflections. If you would like to see the results of my study, please let me know and I would be happy to get those to you once I am finished with the project!!