

# **Creating an Effective Virtual Team**

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# Abstract

A virtual team is one which team members are separated physically or geographically, and carry out daily processes, communication, and collaboration over technology. In today's workforce, the popularity of companies expanding their reach and gaining a competitive advantage through virtual teams is skyrocketing. Interestingly enough, research shows that virtual teams are on the rise, but the success rate is not. In this paper, research, case studies, expert opinions, and academic literature are presented to support how virtual teams can be successful and effective. Recommendations will be provided on how to create an effective virtual team based on strategies from companies that have had success and how they overcame the barriers along the way.

# Table of Contents

<b>Abstract .....</b>	<b>2</b>
<b>Background .....</b>	<b>5</b>
<b>Approach .....</b>	<b>6</b>
<b>Literature Review .....</b>	<b>7</b>
Definition of a Virtual Team .....	7
Social Information Processing Theory .....	8
Advantages and Disadvantages of a Virtual Team .....	9
Key Elements of Virtual Team’s Success .....	12
Picking the Right Team .....	12
Picking the Right Leadership .....	15
When to Meet Face-to-Face.....	21
Using the Right Technology.....	22
Main Reasons Virtual Teams Fail.....	23
Communication .....	23
Coordination.....	24
Culture.....	25
Company Review: Virtual Teams Done Right .....	25
CTrip Case study .....	25
Greenback Expat Tax Services .....	27
Buffer.....	29
Company Review: Virtual Teams Done Wrong .....	31
IBM .....	31
Yahoo .....	32
Best Buy.....	34
<b>Solution.....</b>	<b>35</b>
Is the Company Suitable for Virtual?.....	35
Picking The Right Team .....	36
Picking The Right Leadership.....	37
Establishing Times to Meet Face-to-Face.....	40
Using the Right Technology for the Team .....	40
<b>Discussion .....</b>	<b>41</b>

<b>Recommendations .....</b>	<b>44</b>
Training Plan.....	44
User Acceptance and Buy in.....	45
Selecting the Right Technology .....	46
Measuring Performance.....	47
Further Study .....	48
Inputs .....	49
Socio-emotional processes.....	50
Task processes.....	51
Outputs.....	52
<b>Conclusion.....</b>	<b>52</b>
<b>References .....</b>	<b>54</b>

# Background

The definition of a virtual team varies depending upon the industry in which it's applied. Powell et. al defines a virtual team as, "groups dispersed by geography, organizationally, and time who are brought together by information and telecommunication technologies to accomplish one or more organizational tasks." According to Ale Ebrahim et. al, virtual teams are, "small temporary groups of geographically, organizationally or time dispersed knowledge workers who coordinate their work predominantly with electronic information and communication technologies to accomplish one or more organization tasks." A knowledge worker is an employee who has the job of developing or using knowledge. It can include employees in the information technology fields as well as lawyers, teachers, scientists, and students. The one thing all knowledge workers have in common is that they are dispersed groups that work together as a team through technology-enabled platforms towards a common goal or task (Drucker 1959, 54). The virtual team concept allows employees to balance work and personal lives with ease while interacting with team members from around the world. Companies that utilize virtual teams have a competitive advantage amongst their counterparts because they can hire the best talent despite geography while also reducing office costs.

Research shows that despite the growing popularity of the virtual team concept, the success rate doesn't match. There are challenges with the virtual team concept that contributes to the low success rate. In a 2001 study of 70 virtual teams, only 18% considered their

performance satisfied while 82% were unsuccessful because the team fell short of goals (Govindarajan and Gupta 2001, 63-71). However, in 2009, a similar study was conducted on 80 virtual teams that showed members outperformed office-sharing counterparts when managed and set up correctly (Ernst et. al, 2009, 63-68). The following analysis and solution will demonstrate that when done right, virtual teams can be very successful. By determining if a company is suitable for virtual work, picking the right team, leadership, touchpoints, technology and following the best practices for each of these must-haves, companies can create a successful and productive virtual team.

## **Approach**

Academic literature was reviewed to become familiar with the historical timeline of the virtual team concept, reasons for implementation, and how it can be a useful concept for teams. Reference section reviews for relevant articles and studies is also a significant factor for gathering additional resources. This process continued until no new studies were revealed to support the solution. Also examining several articles authored by industry experts and what sources they recommend were a part of the search. Sources for this review had to meet one or all of the following criteria: they had to (a) compare virtual teams vs. non virtual teams; (b) peer-reviewed; (c) sources are relevant to the topic from a historical perspective; (d) review companies that utilize virtual teams well and how. Based on the research collected, a well-balanced list of pros and cons of virtual teams was formed to create an argument for and

against the virtual team concept. The types of data used for research include scholarly articles, literature reviews, case studies, theories to support the solution, white papers from virtual-based consulting firms, publications from industry experts, and reports from companies who have incorporated and managed virtual teams successfully.

## **Literature Review**

### **Definition of a Virtual Team**

The literature related to the definition of virtual teams varies across multiple professions. According to Ebrahim et. al, a "team" is said to be a small number of people with skills that are used to reach a common goal. The approach for an organization is one that all team members hold themselves mutually accountable for the work. Virtual teams tend to develop when members are in different physical locations. The term "virtual team" is used to cover a broad range of activities and types of technology-supported teamwork (Anderson et. al 2007, 2560). One common theme amongst the varying definitions is that virtual team members are located in more than one physical location and work as a team by using computer-driven technologies. Team members work independently to achieve a shared goal or task. It can be assumed that a team will become virtual if it meets four criteria and other characteristics (Ale Ebrahim et. al 2009, 1580).

Criteria include:

1. Geographically dispersed (over different time zones).
2. Driven by mutual purpose (guided by a common objective).
3. Enabled by communication technologies.
4. Involved in cross-boundary collaboration.

Other characteristics a virtual team can include:

- Not a permanent organization.
- Small group size.
- Team members are knowledge workers.
- Team members may belong to different companies.

A cumulative definition of a virtual team is a small group that is separated physically, organizationally and by time, consisting of knowledge workers who work as a team. The team communicates and collaborates over technology to accomplish tasks that are part of the same project or goal (Ale Ebrahim et. al 2009, 1575).

## **Social Information Processing Theory**

According to Olaniran et. al, the Social Information Processing Theory (SIPT) developed in 1992 by Joseph Walther suggests that given enough time and opportunity to interact, meaningful relationships between team members can form in online environments (Olaniran et. al 2011, 47). The power of SIPT lies within its ability to foster communication between



individuals through behavior valued by the people involved. Therefore, SIPT theory supports the development of trust between virtual team members by establishing group cohesion and effective cross-communication (Olaniran et. al 2011, 51). SIPT also acknowledges that there are challenges with when communicating and collaborating within a virtual team environment (Olaniran et. al 2011, 55).

## **Advantages and Disadvantages of a Virtual Team**

Virtual teams enable members to work and communicate in real-time regardless of location. These technologically-driven teams have several advantages which the growth in popularity can be attributed to (Bergiel et. al 2008, 99-110).

- Reduction in travel time and cost, as well as reducing the level of disruption throughout the workday (Bergiel et. al 2008, 99-110). According to a study done in 2017, spending more than two hours a day commuting can lead to a quicker decline in brain power due to long periods of inactivity, stress, and fatigue (Leake 2017).
- Virtual teams expand recruitment reach for employees that are more talented across the globe (Bergiel et. al 2008, 99-110).
- Diversity exposes team members to a broad range of experience, feedback, and networking opportunities which can enhance creativity and originality (Holger et. al 2009).

- Create equal opportunities for physically disabled employees (Bergiel et. al 2008, 99-110).
- Discourage age and race discrimination because the measures of success or factors in hiring a virtual employee are productivity versus physical attributes (Bergiel et. al 2008, 99-110).
- With virtual teams, there is more flexibility for a work-life balance. It also provides members the chance to interact with colleagues around the world (Ferrazzi 2014).
- There is an ability to have a customizable team structure and processes (Ebrahim et. al 2009, 1583).

Although virtual teams can be very successful, it is also important to be aware of the disadvantages to overcome or avoid them altogether. Some of the most common disadvantages of a virtual team can include:

- Senior managers lacking experience in the technology required to manage a virtual team. In this regard, virtual teams may experience generational gaps creating a digital divide. For younger employees, technology is a way of life versus senior managers from older generations may have more of a learning curve (Bergiel et. al 2008, 99-110).
- A lack of knowledge amongst employees about the technological applications required for the virtual team (Bergiel et. al 2008, 99-110).

- The virtual team structure may not be an appropriate option for all companies. Work that is very sequential, performing one instruction at a time, may not be conducive for virtual teams (Bergiel et. al 2008, 99-110).
- Not every team member is made to work on a virtual team. Employees who are encouraged by interaction with others or need more structure to stay on track may be unsuccessful with virtual work (Bergiel et. al 2008).

The table below shows some of the main advantages and disadvantages associated with virtual teaming.

<b>Advantages</b>	<b>Disadvantages</b>
Reduces travel time and cost	Sometimes requires complex technological applications
Enables the recruitment of talented Employees despite geography	Lack of knowledge among employees about virtual teams will increase the need for training
Promotes different areas	Lack of knowledge among senior managers with required advanced technology
Builds diverse teams	Not an option for every type of employee
Promotes employment for disabled and handicapped	Not an option for every company because of the operational environment
Reduces discrimination	

Table 1. The advantages and disadvantages of using virtual teams (Bergiel et. al 2008, 99-110).

## **Key Elements of Virtual Team's Success**

Through the research gathered and reviewed, compiled below are some key factors on how to make a virtual team successful for a company. By following best practices for each, it will enhance the operability and functionality of a virtual team to be successful and productive (Bergiel et. al 2008, 99-110).

### **Picking the Right Team**

Creating the right team for a virtual environment should be the starting point. It's important to hire people who are well-suited for a virtual team environment, build the appropriate team size, and delegate work the right way (Ferrazzi 2014).

#### **The People**

According to Ferrazzi, a well-suited virtual team employee must have the appropriate communication skills, emotional intelligence, the ability to work independently and recover quickly from unexpected obstacles or conflict. Employees who are virtual can manage ambiguity in work because it should be well-planned and organized (Caputo et. al 2009). When choosing the right team members, it's important not to overlook personality and work style preferences because it can put the virtual team at risk. When developing a virtual team, one technique leaders can use to determine if these desired personality traits are present in employees is by conducting behavioral interviews or personality tests such as Myers-Briggs

(Ferrazzi 2014). From the results of this test, a leader will be able to identify which employees are better suited for virtual work and also implement training where deemed necessary.

### **Team Size**

According to DeRose et. al, groups with less than ten people are shown to be the most successful virtual teams. A case study on virtual teams determined that teams with 13 members or more were the worst performers due to "social loafing" which is when a person exerts less effort to achieve a goal when they work in a larger group versus when working alone (DeRose et. al 2011, 102). The number of people on a team has a significant impact on performance (Rond 2012). Rond goes into detail about social loafing and why there is a reduced team effort due to feelings of less responsibility for the output when teams are larger. Rond uses an example of a study conducted in the 1970s on students in small and large groups pulling on a rope. The researchers asked some students to pretend to pull while the remainder actually did pull the rope. The results showed that it didn't seem to matter whether the students are part of a larger team or it is just their perception that they are part of a larger team — those of the larger team worked less hard than those of a smaller team. This study shows that smaller teams typically have individuals with higher performance levels than those of larger groups due to the perception that the more team members involved, the less individual effort required to achieve the common goal (DeRose et. al 2011, 204).

Another issue of growing virtual teams is the lack of inclusive communication resulting in decreased trust (Ferrazzi 2014). Given the communication problems and trust issues

structuring a virtual team, the team charter is a sure way to overcome this (Govindarajan and Gupta 2001, 63-71), which circles back to how important picking the right team members are to a virtual team. A team member that ensures all communication is inclusive is ideal.

## Roles

The best way to assign tasks to a virtual team is by taking the "X-team strategy" approach (Ferrazzi 2014). To understand the X-team approach, one needs to be familiar with the research of Deborah Ancona. Ancona is a distinguished professor at the MIT Sloan School of Management and the founder and faculty director of the MIT Leadership Center. In her book, *X-Teams: How To Build Teams That Lead, Innovate, And Succeed*, an X-team is one which is externally-oriented, with members working outside boundaries as well as inside of them. In other words, while managing internally for a team is necessary, it is the external management that helps teams lead, innovate, and succeed in changing environments. According to Ancona, "An X-team is an adaptive structure that gives individuals and organizations the flexibility in dealing with changing circumstances and with different kinds of tasks that shift over time." Ancona also talks about how the X-Team has expandable tiers allowing teams to structure themselves in three departments: core, operational, and outer. The core level is made of executives that create the strategy. The operational group leads the team and is responsible for decision-making for daily work. The outer network consists of temporary or part-timers brought in due to expertise. Assignment of team roles with this strategy in mind is a way to set up a virtual team for success.

## **Picking the Right Leadership**

A study by Iorio and Taylor on engineering groups shows that the more experienced a leader is, the more likely they are to lead an exhibition of effective leadership. Even beginners can become great leaders by practicing important behaviors modeled by experienced leaders.

## **Cultivating Trust**

Dynamic trust within virtual teams is a critical factor in determining success or failure (Kanawattanachai et. al 2002, 187-213). A case study by Kanawattanachai, et. al shows that trust within a virtual team is not only necessary for working relationships, it also leads to open communication, cooperation, higher quality decision-making, risk-taking, and satisfaction with decisions. About two-thirds of the high-performing teams in this case study show the presence of “swift trust” -- an early predictor of team performance. Swift trust theory says that a team should start to trust early on and later gather evidence as to whether trust beliefs are valid or need to be adjusted accordingly (Kanawattanachai et. al 2002, 187-213). According to Ancona, trust-building happens during the execution phase. A leader should implement guidelines for team members to continually strive for a culture of psychological safety and team reflection. Always knowing what each team member brings to the table contributes to the underlying culture of support, learning, and team knowledge about other members. Ferrazzi states that taking five minutes at the beginning of conference calls and meetings to share work-related or personal news is an excellent way to overcome feelings of isolation that can be common in

virtual teams. This technique connects everyone on a personal level. When team members feel more connected, mutual trust starts to grow and the purpose of the work becomes more apparent. These fundamentals create trust within a team and it is important to pick the right leader to reinforce this in an organization (Ancona and Bresma 2007, 56).

### **Open Communication**

According to Bennis et. al from the book, *Creating a transparent culture*, once trust is present the team is ready to start communicating openly; the way to do this is to create a culture of candor or transparency. Trust and transparency are always linked because without transparency, people will never believe what leaders say (Bennis et. al 2008). The book argues that a flow of information is essential to a team's health. "A team needs candor just the way a heart needs oxygen," according to Bennis et. al. One way to start the knowledge sharing process within a group is for leaders to set a good example. When a leader demonstrates they are sharing all information, it is good for the overall health of the organization and the norm will begin to shift towards a culture of candor. By having a leader that is committed to open communication with team members, it can create a competitive advantage for the organization by showing value in loyalty with consumers and employees.

### **Fostering Creativity**

According to Steven Johnson, author of *Where Good Ideas Come From: The Natural History of Innovation*, "The trick to having good ideas is not to sit around in glorious isolation



and try to think big thoughts. The trick is to get more parts on the table.” So how does a virtual team member culminate good ideas from a distance?

In a 2004 case study titled, *The Creative Process in Virtual Teams*, the authors explored how the creative process changes over time in virtual teams and how virtual teams communicate while producing original work. The study examines 36 individuals from nine virtual teams and shows that the creative process always begins with either the team leader delegating assignments or an individual team member proposing ideas directly to the manager. This study suggests that there are four stages in the creative process for virtual teams:

1. Idea generation.
2. Development.
3. Finalization / closure.
4. Evaluation.

An assessment of technology usage in each stage of the creative process determines which steps were accomplished more efficiently face-to-face versus electronically. The findings show that during idea generation virtual team members felt a sense of freedom by taking away the pressure to be creative because they were able to take the time to comprehend and read ideas thoroughly, then build on them (Nemiro 2001, 69). Both teams in this study generated new creative ideas regardless of how they communicated. Determining the most efficient method depends on a variety of factors such as personality, work ethic and styles, the creative climate, and the technology resources available (Nemiro 2001, 72). In the development stage,

the consensus was that virtual communication was more effective because face-to-face meetings were not realistic due to geographic dispersion. During the finalization and closure stages, more interactive types of technology to close out the creative endeavors were successfully utilized. Most teams failed to follow through the evaluation stage, so the data from this was not considered (Nemiro 2001, 70).

The study suggests that there are two distinguishing factors in the creative process that made virtual more appealing: (1) archive capability, the ability to record and track the creative process electronically and; (2) capacity to widen the creativity pool of members through electronic means. Nemiro also identifies work design approaches on how the creative process carries throughout each stage: wheel, modular and iterative. In every approach necessary for the creative process in virtual teams, the leader plays a vital role when it comes to fostering creativity (Nemiro 2001, 74). In the wheel approach, the leader is the key person that communicates to all team members. In the modular approach, the leader is in charge of delegating work to team members after the group decides on needs, tasks, or the project pursued. In the iterative approach, members do small amounts of work, receive feedback, and then work a little more, repeating this process until completion. The leader plays a significant role in this approach in overseeing the iterations and change management. The most important role of a leader in the virtual team creative process is determining whether the team is setup to achieve creative tasks efficiently, and what changes need to happen in order to do so (Nemiro 2001, 69-83).

Steven Johnson also makes a valid point that, "When you don't have to ask for permission, innovation thrives." A leader should set guidelines in regards to idea generation that will promote creativity. Johnson suggests that good ideas tend to be more innovative in an open-ended environment versus one that is more restrictive. It's up to the leader to set this tone within a team by building trust, transparency, and candor before setting guidelines (Johnson 2010).

### **Having Clear Goals and Guidelines**

A leader implementing specific guidelines for a team's interaction is paramount according to Ferrazzi. In a study analyzing the best rules of virtual groups, the research identifies six communication rules that are valid and necessary:

1. Get started right away. Groups that get started more quickly on work tend to be more successful (Iacono and Weisband, 1997).
2. Communicate frequently. SIPT indicates that ample messaging can be a predictor for group development (Walther 1992, 54). The value of frequent communication is associated with trust behaviors and perceptions as well (Iacono and Weisband, 1997).
3. Multitasking: getting organized and working simultaneously. It is better to begin work on tasks immediately rather than waiting until every aspect is negotiated and agreed on. Doing so will best utilize the virtual team's time (Bunz and Walther 2005, 830).

4. Always acknowledge when a message was received. SIPT suggests that in a virtual team setting, it's important to recognize communication to combat information slips or false assumptions. It's best to include all information and let a coworker know the plan after receiving a message.
5. Be thorough and transparent about the thought process. Being open about methods allows virtual groups to agree on decisions and complete plans more efficiently versus when suggestions go unconfirmed or unchallenged (Bunz and Walther 2005, 841).
6. Stick to the deadlines. With virtual teams, the perception of accountability differs from a traditional office environment. By accomplishing tasks in a timely way, it reduces the uncertainty associated with remote work and responsibilities (Ratnasingham and Staples 1998, 128–144).

Students in distributed groups had assignments to follow these rules as part of a grade by using computer-mediated communication in this study. The messages show enhanced trust in social groups resulting in improved productivity. The findings suggest that having a set of collaboration rules for a virtual team can decrease uncertainty and enhance trust. How strictly a team follows each rule resulting in higher trust levels within each group, how well members liked each other, and higher performance levels (Bunz and Walther 2005, 838).

## **When to Meet Face-to-Face**

There are certain times that a virtual team should meet in person if possible. If not in person, then over video calling. Ferrazzi explains the critical stages with team development that warrant face-to-face meetings:

### **The Kickoff**

The first meeting in person helps set expectations, establish trust, create a culture of candor, communicate guidelines, and outline goals. Body language plays a significant role in swift trust, which can bring a group of strangers together before long-term trust is created (Kanawattanachai et. al 2002, 187-213). During the kickoff meeting, leaders can also observe dynamics of the team and identify where strengths and weaknesses may develop and how to avoid them.

### **New Employees**

Meeting with a new employee face-to-face can also help a leader assess the level of swift trust a new member has for the team. By observing interactions with the new employee, a leader can also determine how best the new member will fit into a particular role on the team, or if that role should transition into something else (Ferrazzi 2014). Building a relationship is critical when bringing in new employees and the strongest relationships occur during face-to-face interactions (Bradt 2014). Bradt explains that virtual tools are particularly well-suited for indirect communication, but are risky as a tool for emotional connections to be made.

Therefore, since the first impression of a new employee to a team and boss are critical, it's safest to do this face-to-face.

### **Team Milestones**

It's important for a team to come together to celebrate milestones and hard work. In a 2007 study on 55 virtual teams, the results show that one of the key success factors in a virtual team is establishing a "gift culture," where managers support employees by mentoring them daily and rewarding them for a job well done (Erickson and Gratton, 2007). This type of culture motivates employees and gives members a sense of appreciation. Celebrating team milestones should be in-person in order to foster transparency and build relationships more effectively.

### **Using the Right Technology**

When it comes to a virtual team, using the right technology is critical to success. There is no appropriate technology for all teams. The proper technology depends on the culture, dynamic, and purpose of each team. In a PC Magazine article by Jill Duffy, she says that an effective tool facilitates teamwork, cohesion, and leads to greater productivity. Although Duffy does list specific tools, when selecting the correct technology for a team, it's important that the technology fits with the company's behavior, work culture and is also user-friendly (Duffy 2017). For a new technology to be successful for a virtual team, all users must accept it. Picking the right technology also depends on the nature of the company's work. For example, Duffy goes into detail on how some virtual teams may need a communications tool rather than a task

and workflow management tool. It all depends on the needs unique to each virtual team. If a company isn't dealing with project management and only communicates virtually, then a communication tool like Yammer, Convo, or email would suffice. Whether choosing a combination of tools to fit the needs of a company, or going with an all-in-one system, it's important that a tool best fits the team. Keep in mind that collaboration tools work best when the people using them enjoy it (Duffy, 2017).

## **Main Reasons Virtual Teams Fail**

According to Sean Graber of Harvard Business Review, the answer is simple as to why virtual teams fail; companies focus too much on technology and not enough on the process. Grabers says that successful virtual teams possess three core principles: communication, coordination, and culture. In this regard, communication is the exchanging of information, coordination is working with others towards a common goal, and culture is the shared set of customs that create trust and engagement (Graber 2015). Grabers says that if companies do not create clear processes in the beginning and actively support each of these principles, success is will be much more difficult to achieve.

### **Communication**

One of the main issues regarding communication with virtual teams is that it can sometimes be difficult to explain a complicated topic when not face-to-face. When nonverbal

cues are not present, it can lead to misunderstandings and conflict (Graber 2015). Graber says the way to avoid this is to match the message with the medium. In other words, when sharing something complex or personal, nonverbal communication is vital. Therefore, video conferencing may be appropriate for this type of communication. When messages are less urgent or complex, email should suffice. Graber also says the frequency of communication matters. By providing regular updates, responding to correspondence promptly, and being available at crucial times, it will reduce uncertainty and build trust (Graber 2015).

## **Coordination**

When sharing an office, interactions such as stopping by someone's desk or eating lunch together serves as a purpose of course correction. These physical interactions are absent in virtual teams so it is much more likely for employees to wander off course (Graber 2015). It is critical to have processes in virtual teams for touching base before team formation. In the coordination process, managers should communicate the organization's mission, delegate responsibilities, create a timeline, determine performance indicators, and keep track of all team activities through a platform that can be accessed by all. Graber also states that merely having a process in place isn't enough. Leaders must be role models for the process and ensure that all team members are following suit as well.



## **Culture**

To foster engagement and performance in a virtual team, Graber says a team must develop a culture. Many virtual teams tend to focus on tasks and ignore the team which can lead to an increase in uncertainty and mistrust. That being said, the first step in building culture is trust. Graber recommends face-to-face meetings to start the process since trust is more difficult to build virtually. If in-person meetings are not possible, then routine informal calls can be useful as well. Both methods have the same objectives of recognition, understanding how members are feeling, and connecting on a personal level (Graber 2015). Establishing a team culture will lead to better engagement and performance in the long run.

## **Company Review: Virtual Teams Done Right**

### **CTrip Case study**

In a 2013 case study on CTrip, (a 16,000 employee NASDAQ listed Chinese travel agency), results showed that employees who worked from home during a 9-month trial experienced a performance increase of 13%. Of that group, 9% of these employees worked more minutes per shift and also took fewer breaks and sick days, resulting in a 4% increase of calls per minute. Workers attributed the increase in productivity to a quieter working environment (Bloom et. al 2013, 167). The company also experienced over a 50% decrease in job attrition rates. When the experiment ended, CTrip gave all employees the option to either

work from home or the office. In doing so, the company almost doubled in performance gains, which included a \$2,000 per employee reduction in cost and a 30% increase in "Total Factor Productivity." According to Diego Comin, "Total Factor Productivity (TFP) is the portion of output not explained by some inputs used in production. As such, its level is determined by how efficiently and intensely the data are utilized in production." Of the employees in the experiment, 50% decided to return to the office due to concerns of feeling isolated when working remotely. According to Bloom et. al, this finding shows that CTrip's office culture places a high value on face-to-face interactions, which is striking because the study also showed no negative impacts on quality of service from virtual employees. The study also found that by giving the employees the option to choose a work environment, it created a higher satisfaction rate and increased employee retention. The CTrip study shows distinguishing factors that contribute to the success of a virtual team:

- The nature of the job needs to be suited for virtual work. The link between effort and performance of the job in the study was direct (easily quantified and evaluated). Also, the remote jobs didn't require much teamwork (Bloom et. al 2013, 172).
- Performance should be closely monitored due to an extensive centralized database, which helps to quickly detect problems in individual employee's performance (Bloom et. al 2013, 172).

- An organization should not require a reshuffling of team members. Leaders should have the ability to efficiently supervise teams regardless if they are remote or in an office (Bloom et. al 2013, 172).

The most important conclusion of the study regarding virtual teams is that by giving employees a choice, it creates a sense of individual empowerment and value. When an employee feels valued, a sense of self-motivation occurs which can increase employee retention (Bloom et. al 2013, 179).

## **Greenback Expat Tax Services**

In 2009, David and Carrie McKeegan started a business with a location-independent vision in mind. Managing the virtual business was complicated at first because the company's staff and clients stretched across the the world, but eventually this challenge turned into a success (McKeegan et. al 2014). In this article, the McKeegans provide tips and insights on how to perfect the virtual team based on their experience with Greenback Expat Tax Services.

### **Hire only people with significant work experience**

According to McKeegan et. al, "Virtual employees need to possess both professional experience and personal maturity to work independently." An important qualifier during interviews at Greenback is how a potential employee would go about solving a problem. A problem is presented, and if the candidate answers, "Ask you guys" then it's assumed this person would be unsuccessful in a virtual context. It shows a lack of initiative to solve problems

independently and inexperience in the field which will result in additional costs for training (McKeegan et. al 2014).

### **Make every hire a *trial* hire until they are determined to be a fit**

It can be difficult to assess a newly hired employee's performance when working remotely. At Greenback, the first 60 days of employment is a trial period to ensure that the employee is a good fit. During this trial period, an employee has to meet certain goals to demonstrate the ability to work with a virtual team and how to accomplish tasks independently (McKeegan et. al 2014). The McKeegans believe one bad hire can bring the entire team down. That being said, Greenback will not hire an employee when having any doubts. The company is service-based and depends highly on integration and output, so hiring the right people is paramount.

### **Create filters in the hiring process**

The McKeegans have a technique to filter out candidates that would not add value to the business in order to not waste additional time and energy. Before the company schedules an interview, applicants are required to complete a series of assessment questions to determine personality, skill set, stress management, and knowledge. (McKeegan et. al 2014). Another filter during the interview process is if an applicant fails to supply a cover letter because it's a sure way to show the person can't follow simple instructions. According to the McKeegans, "The secret to success in building a virtual workforce is to find the best individuals

to form your highly-skilled, self-motivated professional team – and the way to do that is by recognizing that virtual is very valuable to the right people."

## **Buffer**

While many companies have a difficult time managing virtual teams, Buffer has a company culture and recruitment process that keeps its 100+ member virtual team engaged and connected (Christensen 2016). The company Buffer supplies software with social media tools allowing users to schedule posts and monitor analytics across multiple platforms. The buffer team two years ago of 16 employees is now over 100 members and growing (Christensen 2016). The company is entirely virtual with no office space for headquarters and lives by the notion that employees should work wherever suits them best. Christensen goes on to explain the tactical approaches keeping Buffer together regarding motivation, engagement, and productivity:

- Find the right tools, or build them. Buffer uses many different tools to ensure task completion while helping the team bond by achieving personal goals. It's important to experiment with technology and tools to find the right mix that works for a company's needs as well as connecting employees to one another on an emotional and occupational level (Christensen 2016).
- Hire the right people. Similar to Greenback, Buffer also has a trial period for new employees -- a 45-day probationary period known as boot camp. Roughly 70% of boot camp participants become permanent employees at Buffer. Boot camp

helps the company see if a new employee is a match for the team (Christensen 2016).

- Make time for face time. Twice a year, Buffer hosts a week-long company-wide retreat to an exciting destination. Serious work happens during these retreats, but the intangible benefits such as meeting everyone in-person for the first time, learning about the company's growth and values, and doing activities together at the destination overshadows "the serious work" (Christensen 2016). Real face time is important for connecting people and extremely valuable. The value of these connections stem mostly from the non-work moments according to Buffer.
- Foster a culture of trust. According to Joel Gascoigne, co-founder of Buffer, "Transparency bleeds trust, and trust is the foundation of great teamwork." For Buffer, fostering a culture of trust was a process of trial and error examining what wasn't transparent and asking why (Christensen 2016). Being open and honest with employees in decision-making processes is a one-way Buffer builds trust within the company.
- Don't be afraid to change. It's important to remember when it comes to implementing changes, some will fail, and others will require revision before acceptable (Christensen 2016). According to Christensen, this doesn't mean change is wrong; it only means all efforts must be open to change for a company to grow.

## Company Review: Virtual Teams Done Wrong

### IBM

In March 2017, after decades of having a remote work policy, IBM ended its virtual teaming format. According to Jeff Boss of Forbes Magazine, before this move, IBM experienced 20 consecutive quarters of financial loss and decline. When companies find themselves in this type of pattern, the trend is to re-strategize or restructure (Boss 2017). Boss also says whenever these options don't solve the problem, companies tend to revert to formats when times were better. IBM revoked the virtual team policy in the hope that bringing employees in the same physical space would create more serendipity. By create serendipity, the idea is that employees will generate new ideas and insights to bring the business out of financial decline (Boss 2017). According to Boss, "This strategy is another shot in the dark for IBM. It's hope for something new, but not a plan."

Boss explains that in order to change employee behavior, a company must have high employee morale. By revoking what was once a desirable benefit for IBM employees, motivation will likely suffer and many may end up leaving the company. "It's not about where people work anymore. It's about how they work and why," Boss says. There are two ways according to Boss on how to foster collaboration:

1. Have a process. Boss uses his personal experience of working with Navy SEAL teams on how having a process can foster collaboration. Every day, all 8,000 SEAL members across

the globe, meet virtually to discuss daily plans, lessons-learned, and strategic intent.

Boss says this eliminates individual interpretation that can often happen when communicating virtually.

2. Be consistent. Using the SEAL team example, Boss explains that no matter what occurs the day before, the global meeting always happens at the same time every day. This is a huge factor in how trust was established within the 8,000-person dispersed team. “Success is the result of consistency around the fundamentals,” according to Boss.

An important lesson from this article is, “What gets measured gets managed and what gets managed gets improved, and relocation isn’t a metric. If you want to drive better behavior, change how you operate.” (Boss 2017).

## Yahoo

In 2013, Yahoo's CEO, Marissa Mayer, decided to revoke virtual working options for employees. According to an anonymous source employed by Yahoo interviewed by Nicholas Carlson from Business Insider, several reasons motivated Mayer's decision:

- Remote employees were deemed less productive according to Yahoo. Metrics to success and productivity were absent in the report to support this conclusion.
- A huge number of employees never came to the office. Co-workers never met face-to-face.
- Yahoo executives wanted to cut costs. In revoking the remote work policy, Mayer hoped it would cut costs inadvertently by pushing some remote employees to quit.



According to Daniel Rasmus, professional scenario planner and contributor to Fast Company Magazine, "Regardless of Mayer's motivations, she should have taken on telecommuting as a learning moment for Yahoo and its customers. She should have publicly asserted 21st Century leadership to create a new, positive aura around the number one Internet portal." Rasmus advises that before making such a drastic change, companies should explore the following ideas:

- Commitment-based management captures commitments to the organization and holds team members accountable for meeting obligations (Rasmus 2013). This approach to management creates details, accountabilities, and requires follow-up to ensure everyone is meeting their commitments.
- Designing the collaborative work experience: According to Rasmus, "A good work experience requires a balance between technology, policy, practice, and space." Yahoo apparently did not align new management practices with virtual team policies; communication was not considered or how to build a team to measure success and failures; Yahoo also didn't consider improving the current remote work policy to remedy conflict (Rasmus 2013). According to Rasmus, Yahoo never designed the work experience; they just let it happen, which he says is another flaw in the remote work policy.
- Distributed work professional development: After the design of a work experience is done, it's important to continuously communicate so companies understand how

people are working, how conditions are affecting productivity, and where improvements need to be made (Rasmus 2013).

- Giving time to get time: People no longer work 9-to-5; what was once leaving work at the office does not happen anymore, as the standard practice is to integrate work into everyday life (Rasmus 2013). According to Rasmus, Yahoo revoking the remote work policy and placing physical constraints on where one can work is going to reduce employee engagement.

Rasmus concludes the article by saying, “If Mayer did have employees hiding poor performance behind telecommuting the failure was not the concept, but the practice implemented by Yahoo managers.” Rasmus mentions that one positive about Mayer's decision was it forced many companies to re-examine virtual team policies and practices. It influenced businesses to make improvements, reinforcing core values and enhancing the work experience.

## **Best Buy**

Soon after Yahoo's removal of a remote work policy in 2013, Best Buy did the same. According to Thomas Lee of Star Tribune, Best Buy's operational structure is a “Results Only Work Environment” (ROWE). This concept is the foundation of how Best Buy evaluates an employee's performance versus time worked and office attendance (Lee 2013). Best Buy CEO, Hubert Joly, says the motivation behind the decision is financial recovery, same as Yahoo. According to Best Buy spokesman, Matt Furman, by having employees in the office more, it will hopefully help collaboration and connect employees to generate new ideas on ways to improve

the business and restore accountability. The article explains that two Best Buy former employees created the ROWE model and later founded CultureRx. According to the CultureRX website, "ROWE helped Best Buy teams save \$2.2 million over three years by reducing turnover by 90% and boosting productivity by an average of 41%."

The article cites Erin Kelly, an associate professor at the University of Minnesota who studies ROWE. Kelly says that, "Companies are unfairly scapegoating flexible work programs for subpar performances," and that, "these flexibility and telework initiatives are getting blamed for what may be other problems the organizations are facing in the broader market."

## **Solution**

Research shows that despite the popularity of the virtual team concept, the success rate is not aligned. Based on the literature review, by determining if the company is suitable for virtual work, picking the right team, the right leadership, establishing team touch points, and selecting the right technology, one can successfully create an effective virtual team.

### **Is the Company Suitable for Virtual?**

It's important to first consider that a virtual team is not appropriate for all jobs. According to a white paper by Aon Consulting, a top global human capital consulting firm, it's important to, "Analyze tasks and responsibilities to determine which jobs are suitable for virtual work." It all depends on the nature of the job. For example, a job based on technology that

doesn't depend on the employee being physically present in an office (i.e. IT consulting, website development, graphic design) is one that would be suitable for virtual work. On the other hand, a position where the primary responsibilities are to accept mail, answer phones and manage daily operations in an office space, this position would not be suitable for virtual work.

## **Picking The Right Team**

Even if the job is suitable for virtual work, it's not always a good fit for the employee. Picking the right team is essential. A person should be an effective communicator, have the ability to work independently, and recover quickly from conflicts or unforeseen events.

According to Ferrazzi, an ideal virtual employee is one that is typically very organized, making this individual better suited for working in a virtual environment. An excellent way to identify desirable traits for a potential virtual employee is to conduct behavioral interviews or personality tests such as Myers Briggs.

Case studies showed that a team larger than ten people could be risky in a virtual team setting due to "social loafing." Social loafing is when a person exerts less effort because there are more people on the team and there is a misconception that more people equals less individual work. The worst virtual team performers in the case studies presented had 13 or more members. Another issue in regard to growing groups is inclusive communication with all team members. There are ways to overcome this such as using the appropriate collaborative tools for a team or having touch points throughout the year. Nevertheless, the literature

suggests that smaller virtual teams are typically more successful, so if it is possible to keep the team to a lower number, the better chances are of success.

Assigning the correct roles to team members is important as well when creating an effective virtual team. One way of doing this is the "X-Team Strategy" approach, the idea that while managing internally for a team is necessary, it is managing across boundaries that enables teams to lead, innovate, and achieve success in a rapidly changing environment (Ancona and Bresma 2007, 68). In other words, team members work inside of their boundaries as well as outside of them simultaneously. Ancona suggests the best way to assign roles is to have a three-tier model for team structure:

1. Core - executives that create the strategy.
2. Operational - leads the team and is responsible for decision-making.
3. Outer Network - temporary or part-timers brought in due to expertise.

## **Picking The Right Leadership**

A study on engineering groups shows that the more experienced a leader is, the more likely he or she is to lead an exhibition of effective leadership (Iorio and Taylor, 2014). But even those without prior experience can be effective leaders of a virtual team by practicing important behaviors. The literature suggests that picking a leader for a virtual team is vital to the team's success. An ideal leader for a virtual team is one that can cultivate trust, enforce open

and inclusive communication, foster creativity, and knows how to set clear goals and guidelines for the team.

According to Kanawattanachai et. al, trust within a virtual team is not only necessary for a working relationship, but it also leads to more open communication, cooperation, higher quality decision-making, risk-taking, and satisfactory decisions. A leader should set guidelines that continually create a culture of trust by encouraging team members to practice transparency with one another. Ferrazzi suggests taking five minutes at the beginning of conference calls and meetings to share work-related or personal news is an excellent way to overcome the feeling of isolation that can be common amongst virtual team members.

With trust comes open communication, which is critical to the success of a virtual team. According to Bennis, the way to do this is to create a culture of candor or transparency. Bennis suggests that the first step is for leaders to set a good example of open communication for team members. Share information, whether it is good or bad, and show that this practice is good for the overall health of the team. By having a leader committed to open communication with team members, it creates a competitive advantage for the organization by instilling loyalty with consumers and employees.

A leader implementing specific guidelines for a team's interaction is paramount according to Ferrazzi. According to a study conducted by Iacono and Weisband in 1997, having a set of collaboration guidelines for a virtual team decreases uncertainty and enhances trust. The results of the study showed that the more closely each team follows the rules, the higher

the trust levels and quality of work (Bunz and Walther 2005, 831). Six rules stemmed from the study that are sufficient and necessary:

1. Get started right away: Groups that get started quickly on work tend to be more successful (Iacono and Weisband 1997).
2. Communicate frequently: The value of frequent communication connects with trust behaviors and team perceptions (Iacono and Weisband 1997).
3. Multitasking: It is better to begin working on tasks immediately than to wait until every aspect is negotiated and agreed upon in order to utilize the team's time in the best way (Bunz and Walther 2005, 843).
4. Always acknowledge when a message is received: SIPT suggests that when in a virtual team setting, it's important to recognize communication to combat information slips or false assumptions.
5. Be thorough and clear about thought processes and tasks: Being clear about these methods allows virtual groups to agree and complete plans more efficiently than when suggestions go unconfirmed or unchallenged (Bunz and Walther 2005, 835).
6. Stick to the deadlines: By accomplishing tasks in a timely way, it reduces the uncertainty when it comes to remote work and accountability (Ratnasingham and Staples 1998, 128–144).

## **Establishing Times to Meet Face-to-Face**

Ferrazzi explains that there are critical stages within a team when meetings should be face-to-face. If face-to-face is not possible, then a video call will suffice. The kickoff meeting should be in person because it is a vital stage in creating a culture of candor for the team, laying down guidelines, and outlining goals. Body language plays a huge role as well. With new employees, the welcome should be in person. Relationship-building is an essential part of onboarding, and the strongest relationships happen during face-to-face interactions (Bradt 2014). Also, when a team hits a milestone, it's important to meet face-to-face to celebrate the team's hard work and success. In a 2007 study on 55 virtual teams, the results showed that one of the key success factors was the establishment of a "gift culture," in which managers support employees by mentoring them daily and rewarding them for a job well done (Erickson and Gratton 2007).

## **Using the Right Technology for the Team**

There is no "right tool" for a virtual team to be successful. According to Jill Duffy of PC Magazine, the right technology for virtual teams depends on the unique needs of each team, the culture, dynamic, and purpose. The technology and tools need to facilitate teamwork effectively as well as team cohesion which will lead to greater productivity. Duffy also says to keep in mind that virtual team technology and tools work best when the people using them enjoy it. It's important to bear in mind that the right technology and tools are going to be a trial



and error process. By ensuring team members that finding the right technology is a process that doesn't happen overnight, it will decrease uncertainty and establish a more open-mindedness perception, resulting in user acceptance.

## Discussion

This review examines academic literature and research to find ways to overcome barriers and issues in virtual teams that attribute to low success rates. Studies show that the main reasons why virtual teams fail are due to not having clear-cut processes when it comes to communication, coordination, and culture. The research and academic literature supports that by practicing certain behaviors, a virtual team can quickly overcome these common barriers and yield results that are more satisfactory.

"With major shifts in the workplace, such as the large increase in Millennials and the fading line between work and life, remote work will become an even more critical tool for recruitment and employee engagement," says Sean Graber of Harvard Business Review. Having a virtual team can reduce travel time, and cost. It also widens the pool of candidates and talent that can build a more diverse team and contribute to idea generation and creativity. Virtual teams also promote employment for disabled applicants as well as reduce discrimination since evaluations are based on performance. Studies show one of the most common problems with virtual teams is the feeling of isolation due to members being secluded. Isolation can affect communication, coordination, and culture. According to Graber, this happens because

companies focus too much on technology and not enough on the process. Matching the message with the medium is important. When sharing something complex or personal, video conferencing is appropriate since nonverbal cues play an important role in this type of communication. Also, creating touch points is necessary for communicating an organization's mission, role assignments, timelines, determining key performance indicators, and determining the right technology for a team. Virtual teams also tend to focus on tasks and ignore the team. This mindset can create mistrust and uncertainty. It is important to have face-to-face meetings to create a team culture to produce higher engagement, and to avoid these types of issues.

There are a lot of opportunities that a virtual team opens up for a company. Studies in this review show that it can increase productivity because of less sick time taken, a decrease in daily interruptions, as well as more hours worked. The reduction of costs is another opportunity, as office space isn't needed, the liability of office injuries is off the table, and equipment costs like printers, faxes, and phone systems are absent. Virtual teams also broaden the pool of talent since geographical barriers are no longer a factor when hiring candidates. This factor can also contribute to more diversity, broadening the pool of creativity when generating new ideas.

One common theme all companies have that revoked virtual team concepts in the literature review is they were all struggling financially and reverting to old ways and processes that worked when the company was in a better financial position. Also, the new CEO's that were hired all inherited dysfunctional work cultures so, in an attempt to send a message to all

employees that “they mean business”, drastic changes were made in the work environment. As studies show, this is not the best way to go about making behavioral changes within a team as it can have an adverse effect in which disgruntled employees may leave. According to Daniel Rasmus, professional scenario planner and contributor of Fast Company Magazine, several things a company should consider before making this type of drastic change are commitment-based management, designing a collaborative work experience, distributed professional work development, and giving time to get time. Making this sort of change without careful consideration is perceived as hiding poor performance behind the virtual team concept. The failure is not the virtual team concept, but the process (or lack of) in the work experience design.

Many leaders find that fostering creativity can be an issue when working in dispersed locations. In a 2004 case study titled, *The Creative Process in Virtual Teams*, 36 individuals from nine virtual teams demonstrated that the creative process begins with either the team leader delegating assignments to each team member, or an individual team member proposing ideas directly to the manager. Having the notion that, "no idea is a bad idea," and being completely transparent with open communication is a great way to do this. The study also shows that in the finalization stages, using interactive types of technology with the capability of archiving the creative process is a factor to success.

# Recommendations

The following recommendations are on how to best implement a virtual team into an organization. The recommendations include a training plan, ways to achieve user acceptance and buy-in, strategies on how to select the right technology for the team, and ways a company can measure the performance of a virtual team in order to stay on track to meet objectives. Also included are areas recommended for further study.

## Training Plan

A training plan is necessary for a first-time virtual team or anyone who is joining a virtual team without prior experience. The structure and work experience are drastically different from a traditional team environment, which is why training is necessary. The training should include:

- Assessing the current team. A conversation should happen on the differences between a virtual team and a traditional team. The team will then complete a profile to identify how the team views commitment, capacity, and culture and what obstacles could arise during team development. By assessing the current team, one can determine current needs to prepare for virtual work.
- Prioritizing issues and opportunities. Team members should identify challenges and problems in order to develop a process for solutions.

- Develop a common purpose. This is the nucleus of the team. A team leader should be familiar on how to communicate the vision, mission, values, guidelines, and know when to adjust these as necessary. This will lead to team roles, responsibilities, and definitive goals.
- Communication styles. Virtual teams heavily rely on effective communication. Training team members on how to identify communication styles as well as when adjustments should be made will create an efficient team.
- Clear communication. Miscommunication is a common issue amongst virtual teams. It's important to practice techniques of listening, message planning, assertiveness and how to deal with miscommunication.
- Knowing how to run a virtual team effectively is very important. Methods for leaders should include how to manage conversations during a virtual meeting, delegating tasks, and how to enforce accountability.

## **User Acceptance and Buy in**

When it comes to adopting any new technology or process, achieving user acceptance and buy-in can be tricky. It's imperative to have your users accept the new process in order to have a successful virtual team. This can be hard to do when uncertainty in the process itself is present.

The first step to user acceptance as a team is to get executive buy-in. When the leaders of the company are on board, the transition will be much smoother when it comes to explaining, supporting and reinforcing the new virtual team format. Having upper management that supports a new process is key, as they can also help in ensuring success by overcoming obstacles internally with staff.

It's also important that a team tests the waters before a team goes 100% virtual. This will increase comfort levels and help identify necessary changes before the full transition. Just as in the CTrip study, it's beneficial to have a 6-month trial for remote workers and give them a choice to either work remotely or come into the office. By giving employees a choice, it makes them feel valued which creates motivation and commitment.

Having face-to-face meetings about the process is a way to develop trust, as this is harder to do virtually. Building trust is about creating relationships between team members, and once the trust level is high within a team, virtual work will be more productive.

## **Selecting the Right Technology**

There is no appropriate technology for all teams. The right technology depends on the culture, dynamic, and purpose of each team. Having users try out the technology before it's adopted is a great way to ensure a tool is a right fit. The comfort level and ease of use that team members experience is what makes a tool right for a team. Also, picking a tool that can help meet a team's objectives is necessary.

## **Measuring Performance**

Many leaders of virtual teams still find themselves uncertain if the concept will be successful due to the stereotype that productivity drops once employees are not in the office. As this review shows, virtual teams can be just as productive as traditional teams. The same rules apply for virtual teams as traditional teams when it comes to measuring performance and productivity.

### **Knowledge Performance Indicators (KPI)**

Almost every company has an annual strategic planning session, which sets key performance indicators or goals to achieve the following year for team members. This serves as an outline of what results are expected and whether metrics are quantitative or qualitative.

### **Team Milestones**

By establishing team milestones, it keeps your team on track and accountable. It gives the team an opportunity to celebrate a job well done and incorporate a “gift culture” as previously discussed. If an employee is consistently late on deadlines, then it obviously means the member is not productive.

### **Objectives**

It's important to have a staff review process in order to analyze an employee's objectives to determine the level of performance and quality of work. With objectives set annually, employees have a tangible goal or purpose to work towards to ensure productivity.

### **Guidelines**

When guidelines and expectations are clear to a team, processes function more efficiently due to reduced uncertainty. According to Ferrazzi, “Specific guidelines for team interaction are equally vital; research shows that rules reduce uncertainty and enhance trust in social groups, thereby improving productivity.”

### **Communication**

Having regular meetings can keep work and productivity on track. It’s also important to measure how well a method of communication is working. For example, during a conference call, some team members may be more prone to multi task, whereas a video conference can be more efficient because of face-to-face interaction. It’s important to optimize communication and ensure team members have the necessary tools to interact.

### **Further Study**

Most literature on virtual teams focuses on how to have an effective team, the inability to meet face-to-face and the related implications, and how the team relies on technology to communicate. As technological innovations continue to rise, new perspectives emerge as well. The issues that seem to be lacking in research and overlook elements within inputs, socio-emotional processes, task processes, and outputs (Ives, et. al, 2004). In the figure below, Ives,



et. al explains each area that warrants more research.

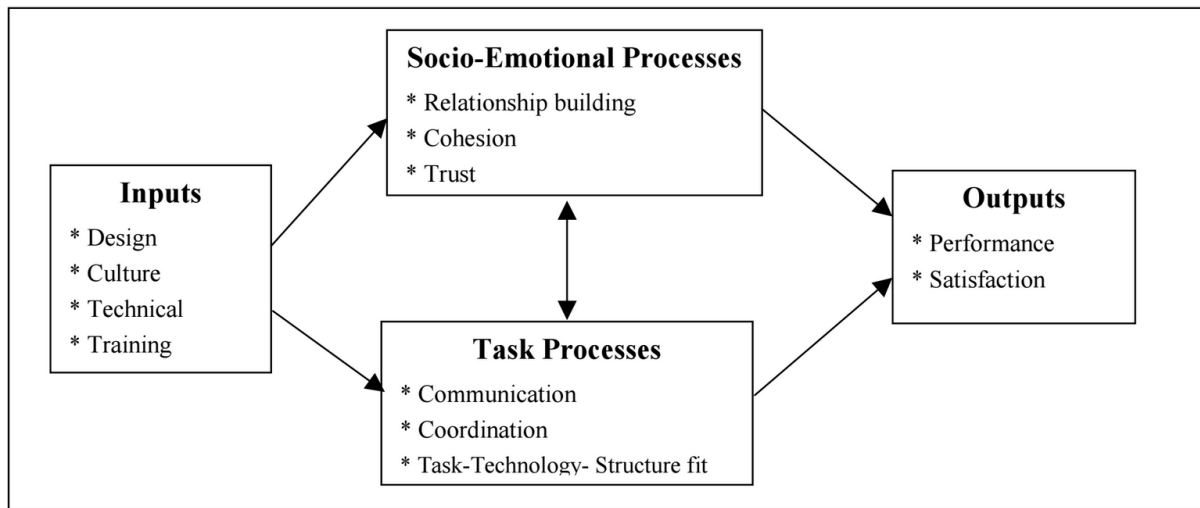


Figure 1. The focus of early virtual team research (Ives, et. al, 2004).

## Inputs

### Design

There is a lack of research on the design of the work experience itself when it comes to a virtual team. Also, many studies showed success within virtual teams 13 members or smaller. More research and study needs to be on larger virtual teams, such as Buffer, and how a team of this size designs a work experience to be successful.

### Culture

When it comes to virtual teams, a lot of the research pertains to globally dispersed teams that are culturally diverse and long term. Ives et. al, concludes that more work is necessary on smaller short-term virtual teams in order to see the differences.

## **Technical**

Current literature also suggests that there is a sense of autonomy when it comes to virtual teams in that they may or may not have to follow a set of formalized rules (DeSanctis and Poole 1997, 157-176). Team members typically work independently to be effective. There is little research that analyzes an approach to control the mixed environment to keep the team within guidelines, so more focus on this area is necessary.

## **Training**

Experience in managers is necessary in order to provide adequate training. There is a lack of the investigation to support what type of experience and expertise is needed for a team leader to train.

## **Socio-emotional processes**

### **Relationship building**

As previously mentioned, many virtual teams experience “swift trust” early in the team development (Meyerson et. al 1996). Ives et. al suggests that future research should focus on what types of activities foster trust.

### **Cohesion**

Diversity within virtual teams is one of the key factors in its success. More research is necessary on cohesion and diversity in virtual teams and how it differs from traditional teams.

### **Trust**

Due to the dispersed nature of virtual teams, trust can sometimes be an issue. Finding common ground with other team members is harder to do when teams are separated geographically. Future research in this area is necessary for understanding the cohesive identity and how members identify with the team. Also, what characteristics help a team member to identify with a team as well as what types of activities encourage team unity need to be investigated.

## **Task processes**

### **Communication**

Most of the studies to date focus on how virtual teams find ways to overcome coordination issues, but there hasn't been a focus on traditional team process views to the virtual environment (Ives et. al 2004). More research needs to be focused on how available technology can overcome coordination issues in a traditional vs a virtual team.

### **Coordination**

The fact that virtual team members are separated by time can cause trust issues. Interventions to overcome these issues, along with what type of training is necessary needs to be investigated in order to alleviate these common issues.

### **Task-Technology**

Conflict resolution needs to be investigated more in depth since some types of conflict have adverse effects on performance (Ives et. al 2004). Traditional teams seem to manage

conflict more effectively than virtual teams, according to Ives et. al. Future studies need to focus on which tasks are more prone to conflict in virtual teams.

## **Outputs**

### **Performance**

Virtual team studies to date typically focus on different performance measures based on comparisons to traditional teams (Ives et. al 2004). Since virtual teams are structured differently from traditional teams, more research should focus on understanding when a virtual team concept is appropriate for a team and how to maximize performance.

### **Satisfaction**

There is a lack of research regarding the viability of a team and how it is directly related to the level of satisfaction within members. More research should be done on what determines and encourages team viability.

## **Conclusion**

In the last decade, virtual teams have become a common theme within business teams, but the success rate is still low. It is critical now more than ever that guidelines are created to perfect the concept to yield positive results and increase the success rate. Successfully implementing a virtual team can be difficult because it requires thoughtful strategy and reliable

execution by leaders. When done right, there are high rewards including a rise in productivity, cost savings, and employee satisfaction. The information and analysis in this review shows that after determining if a company is suitable for virtual work, one can create a successful virtual team by picking the right people, leadership, touchpoints, technology and following best practices and behaviors.

After covering a summary definition of virtual teams, listing the advantages and disadvantages, and how to determine if your company is suitable for virtual work, literature was presented and categorized by factors in this review that contribute to success for easy reference and analysis of findings. After examining the literature, the categories were broken down by necessary behaviors to maintain and implement each category. This review shows an examination of why virtual teams fail followed by company reviews that revoked virtual teams and also experienced success. The purpose of this illustration is to demonstrate real life examples that when done correctly, virtual teams can be just as or more successful than traditional teams.

## References

Ale Ebrahim, Nader, Ahmed, Shamsuddin, Taha, Zahari. 2009. "Virtual R&D Teams in Small and Medium Enterprises: A Literature Review." Scientific Research and Essays. ACADEMIC JOURNALS, 4 (13): 1575–1590.

Ancona, Deborah, and Bresman, Henrik. X-Teams: How to Build Teams That Lead, Innovate, And Succeed. Boston, MA: Harvard University Press, 2007.

Anderson AH, McEwan R, Bal J, Carletta J (2007). "Virtual team meetings: An analysis of communication and context." Computers in Human Behavior, 23: 2558-2580.

Bennis, Warren, and O'Toole, James. "A Culture of Candor." Harvard Business Review. June 2009. Accessed on June 28, 2017. <https://hbr.org/2009/06/a-culture-of-candor>.

Bergiel, Blaise, Bergiel, Erich, Balsmeier, Phillip, "Nature of virtual teams: a summary of their advantages and disadvantages," Management Research News, 31 no. 2 (2008):99-110, accessed on July 8, 2017, <https://doi.org/10.1108/01409170810846821>.

Bloom, Nicholas A., Liang, James, Roberts, John, Ying, Zhichun Jenny. "Does Working from Home Work? Evidence from a Chinese Experiment." The Quarterly Journal of Economics, Oxford University Press vol. 130(1): pages 165-218.

Boss, Jeff. "Why IBM's Move to Rein In Remote Workers Isn't The Answer." Forbes Magazine. May 19, 2017. Accessed on July 6, 2017. <https://www.forbes.com/sites/jeffboss/2017/05/19/why-ibms-move-to-rein-in-remote-workers-isnt-the-answer/#311918403de0>.

Bradt, George. "Onboarding Options When Face-To-Face Onboarding Is Not An Option." Forbes Magazine. June 2014. Accessed on July 13, 2017.

<https://www.forbes.com/sites/georgebradt/2014/06/24/onboarding-options-when-face-to-face-onboarding-is-not-an-option/#6f86ce145bf4>.

Caputo, Pat, Thompson, “The Reality of Virtual Work: Is Your Organization Ready?” (white paper on virtual teams produced by AON Consulting in 2009).

[http://www.aon.com/attachments/virtual\\_worker\\_whitepaper.pdf](http://www.aon.com/attachments/virtual_worker_whitepaper.pdf).

Carlson, Nicholas. “Why Marissa Mayer Told Remote Employees To Work in An Office...Or Quit.” *Business Insider*. February 2013. Accessed on July 27, 2017.

<http://www.businessinsider.com/why-marissa-mayer-told-remote-employees-to-work-in-an-office--or-quit-2013-2>

Christensen, Kathleen. “What Buffer Has to Teach Us About Engaging An All-Remote Workforce.” *TLNT*. July 2016. Accessed on July 27, 2017. <https://www.eremedia.com/tlnt/what-buffer-has-to-teach-us-about-engaging-an-all-remote-workforce/>

Comin, Diego. “Total Factor Productivity.” In *The New Palgrave Dictionary of Economics*, edited by Steven Durlauf and Lawrence Blume, 260-263. New York: Palgrave Macmillan, 2010.

DeRose, Darleen, Lepsinger, Richard. Virtual Team Success: A Practical Guide for Working and Leading from a Distance. San Francisco, CA: Jossey-Bass, 2010.

DeSanctis, G. and Poole, M.S. (1997). “Transitions in Teamwork in New Organizational Forms,” *Advances in Group Processes*, Vol. 14, pp. 157-176.

Drucker, Peter. Landmarks of Tomorrow: A Report on the New Post Modern World. New York: Harper, 1959.

Duffy, Jill. “The Best Online Collaboration Software of 2017.” *PCMag*. August 2017. Accessed on July 6, 2017. <http://uk.pcmag.com/software/70214/guide/the-best-online-collaboration-software-of-2017>

Erickson, Tamara, Gratton, Lynda. "Eight Ways to Build Collaborative Teams." Harvard Business Review. November 2007. Accessed on July 2, 2017. <https://hbr.org/2007/11/eight-ways-to-build-collaborative-teams>.

Ernst, Holger, Hoegl, Martin, Siebdrat, Frank. "How to Manage Virtual Teams." MIT Sloan Management Review. Vol.50 No.4 (2009): pages 63-68.

Ferrazzi, Keith. "Getting Virtual Teams Right." Harvard Business Review. December 2014. Accessed on June 1, 2017. <https://hbr.org/2014/12/getting-virtual-teams-right>.

Govindarajan, Vijay, Gupta, Anil K. "Building an Effective Global Business Team." MIT Sloan Management Review. Vol.42(2001): pages 63-71. <http://sloanreview.mit.edu/article/building-an-effective-global-business-team>.

Graber, Sean. "Why Remote Work Thrives in Some Companies and Fails in Others." Harvard Business Review. March 2015. Accessed on July 22, 2017. <https://hbr.org/2015/03/why-remote-work-thrives-in-some-companies-and-fails-in-others>.

Iacono, C. S., & Weisband, S. (1997, January). Developing trust in virtual teams. Paper presented at the 30th Hawaii International Conference on System Sciences, Maui, HI.

Iorio, Josh and Taylor, John. "Identifying Potential Leaders in Virtual Teams." Paper presented at the 2014 47th Annual Hawaii International Conference on System Sciences, Waikoloa, HI, January 6 - 9, 2014.

Ives, Blake, Piccoli, Gabriele, Powell, Anne, "Virtual teams: a review of current literature and directions for future research," The DATA BASE for Advances in Information Systems 35, no. 1 (2004).

Johnson, Steven. Where Good Ideas Come From. The Natural History of Innovation. New York: Penguin Group, 2010.



Kanawattanachai, Prasert, Yoo, Youngjin. "Dynamic Nature of Trust in Virtual Teams." The Journal of Strategic Information Systems. Vol. 4 (2002): pages 187-213.

Leake, Jonathon. "Hours of driving leaves IQ on the skids." The Times UK. July 2017. Accessed on July 23, 2017. <https://www.thetimes.co.uk/article/hours-of-driving-leaves-iq-on-the-skids-qtdmq50rl>

Lee, Thomas. "Best Buy Ends Flexible Work Program for its Corporate Employees." December 2013. Accessed on July 27, 2017.

<http://www.startribune.com/no-13-best-buy-ends-flexible-work-program-for-its-corporate-employees/195156871/?refer=y>

McKeegan, Carrie, McKeegan, David. "Going Virtual: Hiring the Right Team for Remote Work." Entrepreneur.com. September 15, 2014. Accessed July 2, 2017.

<https://www.entrepreneur.com/article/237487>.

Nemiro, Jill E. "The Creative Process in Virtual Teams." Creativity Research Journal. Vol. 14 (2001): pages 69-83.

Olaniran, Bolanle A., Rodriguez, Natasha, Williams, Indi M. "Social Information Processing Theory (SIPT): A Cultural Perspective for International Online Communication Environments." Computer-Mediated Communication across Cultures: International Interactions in Online Environments. Ed. Amant, Kirk St., Kelsey, Sigrid. USA: IGI Global, (2011). Pages 45-65.

Rasmus, Daniel W. "Telecommuting Works If You Intentionally Design It." Fast Company Magazine. Accessed on March 15, 2013.

<https://www.fastcompany.com/3006990/telecommuting-works-if-you-intentionally-design-it>.

Rond, Mark. "Why Less is More in Teams." Harvard Business Review. August 2012. Accessed on July 15, 2017. <https://hbr.org/2012/08/why-less-is-more-in-teams>.

Staples, D. S., & Ratnasingham, P. (1998). Trust: The panacea of virtual management? Proceedings of the International Conference on Information Science (pp. 128–144). Atlanta, GA: Association for Information Systems.

Walther, J. B., & Bunz, U. "The Rules of Virtual Groups: Trust, Liking, and Performance in Computer-Mediated Communication." Journal of Communication. Vol. 55, (2005): 828-846.

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, 19, 52–90.