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ETM 522/622 – Communication and Team Building  
Fall 2020

Team Research Paper

Initial Decision Framework for  
the Implementation of Virtual Teams

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## **Abstract**

Virtual teams have been used in varying degrees by organizations over the last several decades. The COVID-19 pandemic has required organizations to increase their use of virtual teams for survival. This increase has placed the positive and negative aspects of working within this virtual paradigm into the spotlight, requiring organizational management and employees to adapt abruptly. This has led to individuals adopting sets of technical tools for communicating and working together in a virtual environment. Identifying and examining the critical perspectives and components for virtual team success, this paper seeks to initiate a framework to help an organization decide if the use of virtual teams are productive for use within its business model.

## **Introduction**

COVID-19 has created an increase in demand for solving the many challenges associated with virtual teams, these challenges have existed for many years. Virtual teams have been around for decades; however, the software and systems available in 2020 offer a variety of options for businesses seeking to shift towards this new business style. Software presents the first challenge associated with a business converting to virtual teams. There are dozens of systems to use, all offering various features and accommodations. Asana, Clarizen, and Week-done are some of the leading platforms used, but each has its limitations (Mario, 2020). The variety forces teams to choose which systems to use as a common group in order to manage work, communication, and schedules. Often, teams require multiple systems in order to complete a full work-place environment; meetings with one platform, scheduling and tracking with others. The technicality of virtual platforms does not offer a smooth transition for everyone; rather, operating these systems for a daily work life takes time, effort, and need to resolve learning gaps for many employees. In order for teams to be successful virtually, all members need to transition smoothly between platforms and utilize the features to contribute to the team.

## **Literature Review**

### **Challenges of Virtual Teams**

Contributing to a team reinforces accountability to the team; however, accountability is hard to establish with virtual teams. People working from home, or virtual locations, can get distracted with present issues in front of them. The distraction away from work causes disruption in progress and quality work. Virtual work can also lead people to enter vacation modes, losing track of doing their part of the work. This lack of accountability has a negative impact on teams as a whole, resulting in less functional teams. Contrarily, the boundaries for working hours and effort can be blurred for employees; people can neglect placing limitations for work. The balance between distractions and placing limitations in order to maintain accountability for individual work contributions to a team is a large factor that team leaders need to find ways to manage (Reyes, Luna, & Salas, 2020).

Team leaders also need to consider the complications with employees maintaining association with their organization. With the limited contact and disconnect from work, association has a crucial impact on joint work for a team. Employees can feel their work becomes stagnant (Reyes, Luna, & Salas, 2020); potential for growth can appear far reached when communication is limited. In order for a virtual team to follow the same high-performance team, team leaders need to continue to provide opportunities for their members (Katzenbach & Smith, 2015).

Virtual communication presents a feature of a new culture being formed. Nonverbal cues and body language complement verbal communication to establish a comprehensive understanding (Reyes, Luna, & Salas, 2020). Without these, virtual communication is at a disadvantage. Furthermore, the lack of engagement to communicate as a team places strain on clarity and understanding of commitment.

Communication is essential for building trust between group members and team leaders. Being virtual allows multicultural, global teams to form readily. However, being completely virtual is often followed with mistrust, opportunism, and conflict if not handled correctly (Hsin Hsin Chang, Chung-Jye Hung & Hsu-Wei Hsieh, 2014). Global teams operating completely virtual struggle with trust; trusting people that you do not actually see or interact with is harder. Work must be completed only on the basis that you trust the members act in favorable actions for the benefit of the group. Solving problems requires open dialogue, which can also be less forthcoming from all members online. The personality of members differs, some willing to communicate heavily, while others are more reserved. This imbalance affects the team as a whole.

Overall, there are many challenges that must be addressed when converting to virtual teams. These challenges rely on one another; the association between problems should be solved cohesively, rather than focusing on one individual problem at a time (Katzenbach & Smith, 2015).

### **Overcoming Challenges**

Nowadays, we see ourselves very dependent on virtual platforms and virtual teams, which is pushing us to take all possible measures to be more effective, more efficient, and battle all challenges we face for a better virtual working experience and virtual teaming. As researchers invest time to highlight the main common challenges facing virtual teams today, other researchers have proposed feasible actionable methods that help managers better cope with these unprecedented times (Feitosa & Salas, 2020).

Prior to implementing a virtual team environment, a thorough understanding and assessment of the technology to be used is needed at a granular level for successful virtual teams implementation. Research conducted showed that it's important to reinforce the virtual team definition. It's important to establish a common approach that will help the virtual team interact better, collectively classify and utilize the existing technologies. In fact, research has established a technology interaction spectrum; consisting of communication technologies, cooperation technologies and collaboration technologies, all needs to be clearly defined within the virtual

team (Chinowsky & Rojas, 2002). Such assessment of technology available can increase chances of successful implementation of virtual teams.

Four revised guidelines are proposed when reviewing the challenges of today's virtual teams since the pandemic (Feitosa, Jennifer, & Salas, Eduardo, 2020). First, teams should pay particular attention to identifying any violations in trust amongst members in order to resolve them early on. This can be done through distinguishing relationships where trust already exists and where trust needs to be built, being mindful of interactions amongst members, and frequent check-ins for feedback. Secondly, making it a clear point to recognize such teamwork and behavior as well as giving constructive feedback can foster the balance of taskwork amongst virtual team members. Rather than micromanaging teams, firms should strive to give continuous feedback to assess performance on top of the flexibility and freedom that members have in completing work. Third, by focusing on process gains such as communication, cooperation and/or coordination, team members can create synergy within the group to become more effective. Process gains can be best achieved through direct platforms or channels that allow the sharing of information and communication (ICT). Information sharing among team members in a virtual environment is critical in maximizing the benefits of working remotely or virtually. Lastly, teams should also strive to work together or bond on a deeper level outside of the current platforms and tools being utilized. This allows for more of a sense of belonging to the team, and can enable members to find situational commonalities or comfort in work despite facing some differences or constraints during this time.

There has been efforts addressing the management of conflict in "global" virtual teams. However, as virtual teams are now becoming popular, and starting to be the new norm, new phases of conflicts are appearing, and efforts to minimize those conflicts are highly appreciated. There is a study that considered management as a big contributor to managing virtual teams conflict, the study, focused on diversity, showed that affect management can actually reduce the level of relationship conflict in virtual teams with diversity faultlines, and that this effect can be explained by the pattern of change in team resilience in response to the intervention. The study is contributing to a research conducted in the past on identifying ways to prevent or mitigate team conflicts arising from diversity faultlines (Peñarroja, González-Anta, Orengo, Zornoza, & Gamero, 2020). The management indeed plays a big role in managing virtual team conflicts, and implementing different programs that encourages team members to be open and transparent with their concerns can be very effective in resolving conflicts in virtual teams.

### **Positive Aspects of Virtual Teams**

Taking into account the significant growth that has occurred in virtual team use over the last couple of decades, it is important to examine the benefits of this model from both the organizational, and the employee perspectives (Kupa, 2020). It has been acknowledged that working on a virtual team has both positive and negative aspects. Through a positive lens, individuals and organizations, can capitalize on the positive benefits provided by this viewpoint. The literature suggests that these benefits include and extend into social, economic, personal, and business perspectives (Kaushik, 2020; Kupa, 2020; Waizenegger, 2020).

Maintaining a healthy work-life balance is important for most employees. Working remotely in a virtual team provides an opportunity for people raising a family to spend more time together. In addition, with the advent of the COVID-19 pandemic, not only is the remote team member typically at home, but all of their family members are too. This combination has reportedly fostered a successful and enjoyable work-life balance for many employees (Kaushik, 2020; Waizenegger, 2020).

A significant advantage of working virtually, are the time and cost savings employees obtain by not having a daily commute to the workplace. From the organization's perspective, these commuting savings are realized through the reduction in travel expenses, such as flights and hotels (Kupa, 2020). In addition to monetary cost savings, not commuting reduces an employees stress level, by eliminating a daily grind that may include traffic jams, or uncomfortable weather events. Further, reducing commuting activities also reduces related negative environmental externalities, such as pollution. Additionally, the extra time savings provides a higher resource pool of productivity that can be selectively used by the individual for personal, or work activities (Kaushik, 2020; Waizenegger, 2020).

The positive advancement of technology to support virtual teams and working remotely has improved significantly over recent years. This technology allows team members to easily and reliably connect to the workplace for communication with others. Notably, most of the technical tools used for virtual teamwork enhance efficiency and information sharing by automatically recording and storing interactions electronically (Kupa, 2020). In addition, these technologies are forcing Human Resource departments to rethink the office environment, as full-time home offices become more commonplace. Further, a workforce that is home based, saves money for an organization, by reducing overhead expenses for things such as utilities, and office space. (Kaushik, 2020; Waizenegger, 2020).

A virtual team that is composed of a globally diverse pool of employees provides access to a larger talent pool than within a local group. This can provide an organization with experts from all over the world, and reduce the gap in knowledge that may exist from more localized team members. This diversity, when managed well, can produce a significantly effective team by providing a useful mix of creativity and problem solving skills from multiple differing viewpoints, including cultural, experiential, and educational backgrounds (Kupa, 2020).

Virtual teams provide a gain in productivity. When an employee has the flexibility to choose how, when, and where to work, they feel less micromanaged. This tends to increase the morale, and the happiness of the employee. From a globalization standpoint, this flexibility can provide a seamless production schedule for an interdependent team, and allow for extended business hours. For example, once a team member in Budapest has finished working for the day, a member in San Fransisco can immediately pick up, and continue working on the task, as if they were working different shifts (Kupa, 2020). Adding the previously discussed time savings of not being required to commute to the office adds more to the available productivity time that the employee has to offer (Kaushik, 2020; Waizenegger, 2020).

The COVID-19 pandemic has provided organizations with an opportunity to experiment with virtual teams, and geographically remote offices like no other time in history. The opportunity to gain insight into the effective use of this paradigm is leading to better ways of maintaining virtual teams. Specifically, using the following tips suggested by the literature: build trust between team members, provide individual recognition, use synchronous collaboration software tools, and be certain to establish goals. Successful implementation of the advice suggested by the literature will lead to virtual teams becoming more accepted than they have in the past (Kaushik, 2020).

## **Research Question**

Organizations and companies have expanded their work-from-home policies for the past two decades but more so during the pandemic to create and take advantage of virtual teams' structure and characteristics over traditional in-office teams. While the recent Covid-19 Pandemic has forced many organizations and companies to function in a remote manner, there will come a time for the organization to make the decision in continuing to operate in a remote/virtual team or go back to traditional in-office structures. There are many pros and cons on both structures based on the literature review that has been discussed. The goal of the research is to review the readiness of the organization to see if they are ready to utilize virtual teams and contexts effectively: are companies prompt to productively use virtual teams?

## **Research Gaps and Motives**

The presence and magnitude of organizational effects that come from virtual teams depend on the level of virtual maturity of the firm (Lindeblad, 2012). Yet, in the long term aspect of things; virtual collaboration tends to become less significant or inherent as organizational effects wear off over time. For firms that were thrust into virtual environments during the pandemic, this can fluctuate accordingly based on how a firm chooses to substitute, diffuse, or integrate virtual collaboration tools into the organization. Virtual teams will increasingly affect how we organize our work processes, how a firm runs projects, how teams are generally set up, and how various resources/competencies are managed. What past research does not shed much light on is how the implementation of various tools might affect the use and effects of virtual collaboration, employees, and environments of a firm. Developing methods for the organization to determine virtual maturity and organizational readiness can work to provide the firm with roadmaps of such effects as well as give indication on how to properly manage them to maximize effectiveness. We strive to look into the inevitable combination of a firm's (virtual) teams and the major changes embedded in the transition to a virtual environment.

## **Research Design, Methodology, and Framework**

When complex decisions are needing to be performed; organizations may use a variety of tools to re-enforce or assist the final decision makers possibilities or outcomes. The Hierarchical Decision Model (HDM) is a structured technique that organizes and analyzes the complex decisions based on mathematics and psychology perspectives to achieve a final

outcome (Abbas, 2016). The HDM model is broken down as a tree structure to outline the criteria and sub-criteria to be ranked with the alternatives.

The HDM model setup is organized in four phases: literature review, preliminary model, revise/review, and final model. The preliminary model is the results of the team's literature review on the topic of virtual teams. The basic structure is formed with perspectives/criteria and components/sub-criteria. Per the results of the literature review on virtual team readiness in an organization, a preliminary model was developed (Appendix B):

- Decision objective: Is a company prompt to productively use virtual teams?
- Perspectives/Criteria: four areas identified (People, Technology, Organization, and Economic)
- Components/Sub-Criteria: a set of sub-criteria were identified for each type.
- Alternatives: Organization ready, not ready or hybrid approach

The model (Appendix B) is provided to experts to verify the perspectives and components are relevant to the decision/topic during the revised model step. The revised model will go through a few iterations based on the feedback from the subject experts. The experts will help solidify the options and right terminology to prevent any inconsistencies and disagreements among the experts in the model in the analyzing phase. Once there are no further changes needed then the model is ready for the final stage to be distributed and gather results from additional subject matter experts (SME).

During the final phase, SME will be sought out to gather feedback and quantitatively rank the various layers of the HDM model to assist in the final decision to see if an organization is ready to handle virtual teams going forward. Data is collected and reviewed for any disagreements or inconsistencies between the experts. If disagreements are seen in the dataset then the Delphi technique is used to analyze and conduct further exploration with the expert(s) to gather additional details. The reliability of the model is tested, post delphi technique, using statistical significance (f-test) and sensitivity analysis.

## **Conclusion, Further Research, and Implications**

When looking at today's new norm and significant surge in virtual teams across the globe, approaches should be altered to address the change in team dynamics. At the start of 2020, 3.4% of the U.S. population were working from home remotely *part-time*. With the push of COVID-19 and the global health pandemic, this number has increased to over 40% working remotely from home *full-time* (in comparison to part-time). We may be able to still apply what we know about virtual teams to these situations; however, additional consideration should be put into emphasizing trust and engaging members to overcome potential challenges that come along with working in virtual environments.

The virtual context model can be used when evaluating virtual environments and teams within organizations (Lindeblad, 2012; Appendix A). This illustrates how infrastructure, enabling technologies, implemented applications, objectives and goals can be connected in the firm

applying ICTs into work routines. It can provide additional insight into how firms can account for such effects in an integrated manner in order to realize full potentials of going virtual.

As organizations are shifting their working environment into a virtual environment, there is a need to invest in all possible models that can assess the organization's readiness to transform into a virtual platform, and models to enhance the virtual transformation. Much research is needed to address all possible factors affecting this transformation. For instance, the initial Hierarchical Decision Model (HDM), Appendix B, needs to be further studied and refined multiple times to establish a reliable model that any organization can use to assess their readiness and ability to transform into virtual teams. Additionally, as mentioned, the virtual context model can act as a good starting point to enable the organizations evaluate their virtual environment and teams through multiple categories and subcategories. However, there is a need for future investigation on how the HDM & the virtual context model can complement each other to offer a robust model for organizations to use and assess their readiness to productively use virtual teams.

The pandemic has triggered many shifts in conditions across the globe, and many are struggling to act accordingly. With some being ready to take on such challenges, and some not. Nonetheless, there is a great level of discrepancy between different members and their local contexts that should be noted including various work from home situations. Attitudes have also changed as a consequence; mental health has become a bigger issue, and work-life situations/environments have become altered or disrupted. This can strongly influence trust, inclusion, participation, and essentially the wellbeing and work output of employees or team members. The tools and platforms that are utilized to share information, knowledge, and communicate therefore play an important role in team dynamics. Members may be more inclined to mute themselves, become idle, or get distracted. Research has indicated that taking frequent breaks, eliminating distractions and establishing clear objectives/agendas can assist in mediating such challenges and enhancing group think (Oeppen, R.S, Shaw, G, & Brennan, 2020). To reinforce authority, direction or tasks among the group and consistent contributions should be expected from members.

There is a distinction between work environments that are ready or equipped to take on virtual means and those that aren't. Nonetheless, the opportunity to exploit ICT platforms and tools was always there; but it doesn't necessarily mean that every team functions better through working virtually. Many were forced to comply with such means as a result of the global health crisis and social distancing regulations. It is apparent that the main struggle with virtual teams lies with the lack of face-to-face interaction between members. Without this aspect, there tends to be more challenges associated with collaborating through virtual contexts. Through this research, an important question arises: will virtual teams be something that remains long-term even after the pandemic? This can be an interesting point for further in-depth research, and should be revisited once social distancing regulations are lifted and the virus is contained.

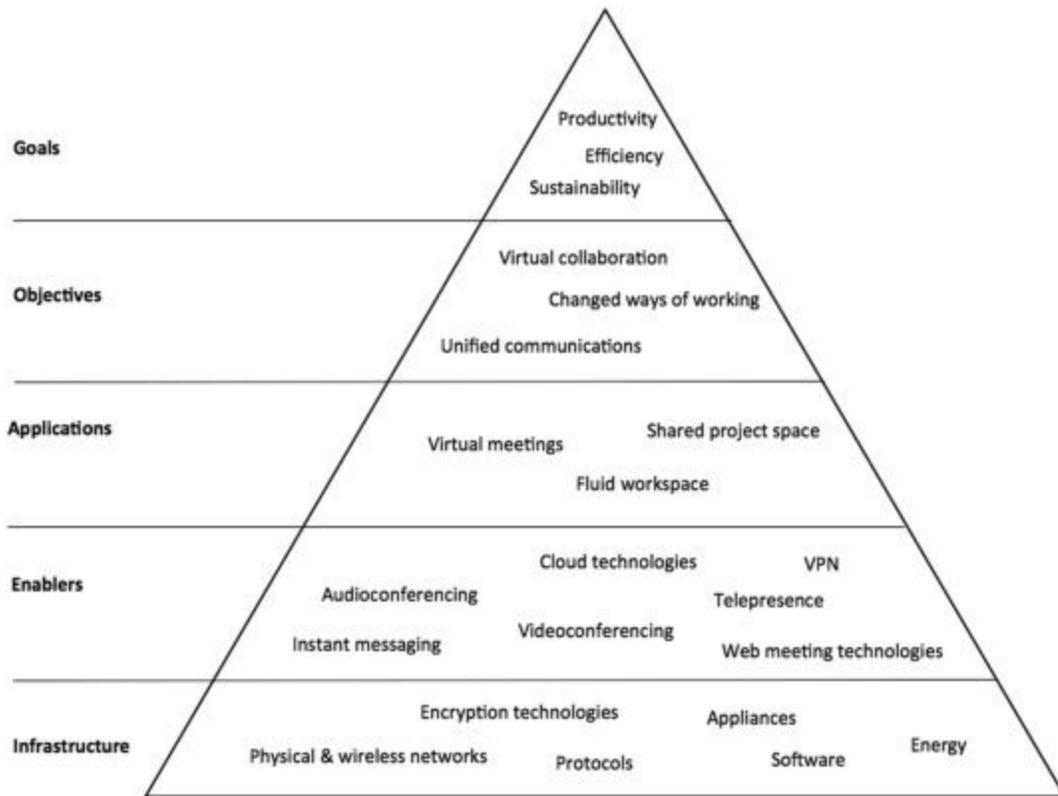
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## Appendix

### Appendix A: The Virtual Context Model (Lindeblad, 2012)



## Appendix B: Preliminary Hierarchical Decision Model (HDM)

