THE MANY FACES OF A VIRTUAL TEAM: A REVIEW OF RESEARCH DONE ON INDIVIDUAL MEMBER INPUT TO VIRTUAL TEAMS

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Abstract

Over time, research on virtual teams has ventured down many paths. For example, themes like trust and virtuality have had extensive research done within the past decade. As time and society changes, new themes arise in virtual team research. In this review, literature about three themes of generational impacts, self-efficacy, and power dynamics from the past few years are examined. A few opportunities for future research stemming from these themes are then presented. With the constant shift toward technology in the workplace and more opportunities for large global projects, research on virtual teams continues to be vital in helping to determine what helps a virtual team's success.

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Introduction

As time goes on, companies are becoming more globally and technologically aware than they have in the past. This causes companies to adopt virtual teams in the workplace. What makes a team virtual is that the group members do not work in the same place and/or at the same time. Virtual team members are only able to communicate through technology (Schweitzer & Duxbury 2010). According to a study by SHRM in 2012, organizations with multinational operations are more than twice as likely (66%) to use virtual teams compared with organizations with U.S. based operations (28%) (SHRM 2012). About 37% of businesses adopt virtual teams to improve collaboration across global business units because work projects are becoming more global. (SHRM 2012)

Over the years there has been a lot of research done on virtual teams. Many researchers developed various definitions for what classifies a virtual team. A team cannot be defined as simply virtual or not virtual, there is a degree of virtuality in teams. It is measured by the proportion of work time team members spend working apart, the distance between team members, and the proportion of members who work virtually (Schweitzer & Duxbury 2010). Leading into 2015, research dealing with virtual teams has revolved around an array of common themes. These themes dealt with technology, leadership, globalization, trust, etc. (Gilson, Maynard, et al 2014)

Even with all the research spanning decades about virtual teams in various areas, there is still need for research in areas that involve various team inputs such as generational impacts, individual self-efficacy, and member mobility and location in regards to power dynamics. According to research, the impact of multiple generations in the workplace has not been thoroughly explored. With Generation Y coming of age to work in businesses, their technological expertise will more than likely influence virtual work. Since they have grown up with technology, Generation Y is much more comfortable with technological work and communication. What has not been explored as well is how age primarily affects virtual teams.

Self-efficacy and competence are linked to positive outcomes but there has not been much explored on them. Team dynamics tend to change based on the effectiveness of the team. It also depends on the communication, knowledge sharing and collaboration of teams. When these are out of balance, there are power struggles amongst global teams.

This paper is intended to shed light on recent research that has been done to help further develop research that has been done over the past decades. This will be done through an analysis of research articles done from 2015 until the present. The areas that will be focused on will be the impact of different generations on virtual teams, how self-efficacy has an influence on virtual teams and its members, and power dynamics within global virtual teams. After giving a look into how research has been developed in the past year, a broad idea of future research opportunities will be given based on what has been shown.
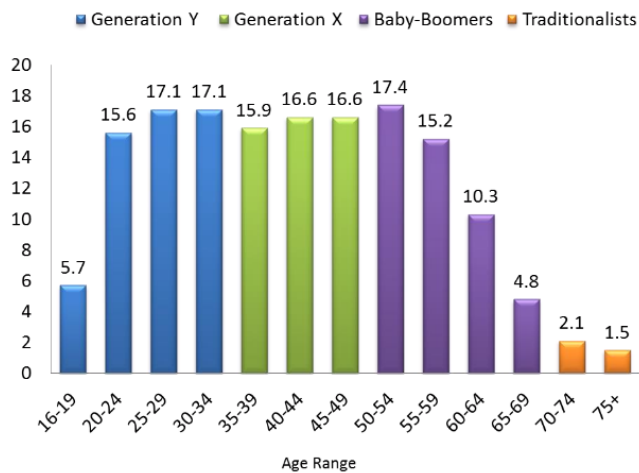
Research Topic 1: Generational Impacts

The work environment has changed within the past few years. Generation Y is beginning to come of age to work in companies. Research on the years of a generation's birth sometimes differs by about 1 year. However, generally as seen in figure 1, the Generation Y (Millennials) are the generation that was born between the years of about 1980 – 2000. This brings the oldest millennials to be 36 and the youngest millennials to be 16. In the past couple of decades, the Baby Boomers were the higher population in the workforce but that is no longer the case. As seen in figure 2, according to the U.S. Bureau of Labor Statistics, Baby Boomers, Generation X, and Generation Y make up a majority of the workforce each representing about a third of the majority.

Generational Groups	Birth Year Range
Traditionalists	1925-1944
Baby Boomers	1945-1964
Generation X	1965-1979
Millennials (Generation Y)	1980-2000

Figure 1. Generational groups and their birth year range

Size of the U.S. Labor Force (in millions) by age, for the year 2015*

■ Generation Y   ■ Generation X   ■ Baby-Boomers   ■ Traditionalists

5.7, 15.6, 17.1, 17.1, 15.9, 16.6, 16.6, 17.4, 15.2, 10.3, 4.8, 2.1, 1.5

Age Range: 16-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75+

Source: U.S. Bureau of Labor Statistics

Note*: The US Labor Department does not break down the data on generational lines. Therefore, the authors use their numbers to estimate generational population in different buckets.

Figure 2. Break down of generations in the work force

Research done within the past ten years about the generations in the workforce have focused very heavily on Generation Y. Research contains gaps in how each generation affect and interact in virtual teams. Gilson, Maynard, et. Al felt that research would be benefited by comparing the generational impact of members, exploring advantages of younger employees in virtual teams, and exploring the behaviors of the generations in areas like communication, knowledge sharing and comfort with technology. Since team members do not meet face to face, communication is very important in virtual teams. Different generations prefer various types of communication technologies over others. Generation X and Y prefer email as primary communication tools while the Baby Boomer generation

prefers virtual meeting rooms (Duarte and Cunha 2015). This correlates with the trait of Baby Boomers enjoying face to face interactions. Millennials on the other hand, since they are much more apt to technology feel as though technological communications carry the same weight as face to face meetings (Duarte and Cunha 2015). The trend of society today is that everything must be done faster. Younger generations are able to multitask much easier than older generations (Carrier, Cheever, et al. 2009). This may be a reason as to why younger generations prefer communicating through quick emails rather than having a virtual face to face meeting. Another trait that has become common with Generation Y is their preference for work life balance. Millennials enjoy flexibility. According to Pew Research Center, "if they were able to make their current job more flexible, 64 percent of Millennials want to occasionally work from home and 66 percent would like to shift their hours." (Fromm 2015). The average job retention for Millennials is only a few years versus older generations whose retention rate span closer to ten years (Fromm 2015). Another generation that enjoys the idea of a work-life balance is that of ages 60 and older. Research found that a majority of workers intended on staying full-timed employed as long as possible. Since they also valued a work life balance and would be ok with working remotely and using information and communication technology. This showed a similarity with Millennials.(Holian 2015)

Even though much older generations have a similarity to Millennials, age is still connected with greater skepticism of intentions of new coworkers. (Roussin 2015). Metastereotypes about the younger generation are that they are lazy, inexperienced, technology attached, etc. Metasterotypes of older generations are that they are stuck in their ways, experienced, etc. (Finklestein, King, and Voyles 2014). These various traits come into play in virtual teams in younger generations most likely will be helpful in shorter projects rather than long ones. Younger generations thrive on constant feedback and collaboration (Fromm 2015). This is a benefit in virtual teams because communication and collaboration

are pertinent for a team's success. Millennials relying on other generations as mentors and equals rather than just superiors will help to contribute to more communication.

Research Topic 2: Self-Efficacy

Self-Efficacy is defined as "belief in one's capabilities to perform a particular behavior and successfully execute certain actions to attain goals" (Bandura 1977). Self-efficacy is positively related to an individual's willingness to cooperate in teams. (Tran, Oh and Choi 2015). Even though self-efficacy and virtual competence are linked to positive outcomes, there has been a lack of research done in the area (Gilson, Maynard, et al 2014) . With the increased technological comfort of younger generations and corporate shift to a more technological work environment, virtual competence and virtual self-efficacy are becoming more important. High self-efficacy for virtual work increases the likelihood of an individual doing virtual work. Agarwal found that it can make team members less fearful in working with unfamiliar members and more willing to learn new ways of thinking (2000).

In order for members to learn more from others who are not located with them, virtual teams have to develop their online knowledge transfer skills. This is influenced by Individual Virtual Competence (IVC) which has three dimensions: virtual self-efficacy, virtual media skill and virtual social skill. (Wang) (Watanuki, Barbin, and De Oliviera Moraes 2015). Self-efficacy for virtual work is proposed to be determined by individual capabilities, needs and preferences, relational factors and structural factors. Improvement of these dimensions improve the quality of knowledge sharing through better communication (Gahan, Mendoza, Shallcross, et al. 2015) In order to better improve knowledge sharing and communication, more development is needed in the non-technical aspects of such as training on techniques to enrich electronically exchanged information as well as training on effective work development in virtual settings and virtual socialization (Watanuki, Barbin, and De Oliviera Moraes 2015).

Written communication, analyzing and effective used of digital media are important skills to have when working in virtual teams. (Krumm, Kanthak, Hartmann, et al. 2016). Self-efficacy is unique and can change with technology. Like virtuality, self- efficacy cannot be measured as yes or no. It depends on the type of digital media as well as the complexity of the project and communication technology. Self-efficacy can be realized and increased however through self-awareness and/or persuasion from others. It determines the amount of effort that is put into virtual work. (Eschenbrenner and Nah 2014)

Research Topic 3: Member Mobility, Location and Power Dynamics

Member mobility can be understood in research to mean that work can be done anytime and anywhere. However, virtual team research has not fully explored how this influences dynamics and performance of teams. Many studies have done research on team dynamics, but few studies have examined the power dynamics in global teams. The distribution of power can have large effects on individual behavior and team outcomes. A study done by Hinds, Retelny and Cramton found that the major sources of power stem from access to information, access to decision makers, and opportunities for growth (2015). Inevitably, power tends to shift but usually the most power and influence comes from the team or individual with the most relevant information (Panteli and Tucker 2009).

Since teams are in different parts of the world, language also plays a part in how much of an influence a team has. In a study by Hinds, Neely, and Cramton , who held interviews with participants in the US, Germany and India, members located in Germany felt that having to speak English was keeping them from having effective communication (2013). Non-verbal language barriers also play a part in understanding. Most team members tended to feel more comfort in talking to others that shared their culture especially in difficult tasks. The teams that had greater power dynamics tended to have more subgrouping as well. The inability to communicate properly creates past due deadlines, frustrations, etc (Klitmøller and Lauring 2013). This in turn creates low virtual team productivity. A possible way to help mediate struggles would be for members to meet face to face to discuss complex or pressing issues that

may not be able to be communicated as well over the phone or through email. (Klitmøller and Lauring 2013).

Future Research Opportunities

Qualitative Research on Generational Impact

Currently, there is quantitative data on generational groups comfort level with various communication technologies. One way to better understand these figures and further improve virtual team collaboration and productivity is to engage in qualitative research. The main question in mind would be "why do certain generations prefer a technology over another?" It is possible that this research would be best carried out using a focus group methodology. Each focus group would contain members from a certain generational group. Once research has further developed why a generation prefers a communication technology, it would be interesting to see is there a difference in how a certain generation uses its preferred communication technology and its effect on productivity.

Self-Efficacy

Since self-efficacy changes constantly based on technology as well as a member's capabilities, it would be interesting to see if certain technologies are preferred based on how a person judges their self-efficacy level. It could be possible a discovery could be made that will help improve virtual member self-efficacy. Since good self-efficacy, knowledge sharing and communication practices are important factors in the success of virtual teams, finding ways to further improve use of communication technologies would be helpful.

Collaboration and Power Dynamics

Further research should be on how collaboration technologies affect and are affected by power dynamics in global virtual teams. Another research opportunity lays in how leader and supervisor visibility affects power dynamics. It is suggested that systems are needed that provide leaders and

supervisors with visibility into existing power dynamics to help them identify sources of power across teams and when power struggles arise will enable them to rebalance the distribution of power.

Impact of generation representation in a Virtual Team

A trend I noticed through research was that even though many scholars explored generational effects on a virtual team as well as size there was a lack of information about the two together. The most effective size of a virtual team is ten people or less (Ferrazzi 2014). With the generational breakdown of the workforce being about a third per generation, there are numerous combinations on how a team could be structured according to age. It would be interesting if future research could explore how a team's performance is affected by its member's individual ages. How does a team function if a certain generation group is the majority? Is there better communication in a team that contains more Millennials? Is there a power imbalance? For example, since millennials enjoy a mentor role it could be possible that older generations take advantage of this. It could also be possible that since millennials are much more comfortable with technology they could try to take control.

Conclusion

Technology will continue to evolve and so will the businesses and individuals who use it. Having such a globally diverse work environment will continue to create opportunities for research. Managers will have to work on ways to better lead a multigenerational workforce that have various levels of self-efficacy. A step to help reduce power struggles as well as create a more connected team would be to improve collaboration and communication. Without proper communication, knowledge sharing, an important factor to what helps a team be successful, will be reduced. Further research into the themes discussed above will help contribute to the continuous improvement of virtual teams.

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