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Collaborative Innovation in Global Teams: A Case Study of the Startup Grind Inc. Global Community Team

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the Startup Grind Inc. Global Community Team

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Abstract

The Startup Grind Inc. Global Community Team was studied to show how creativity and innovation occur in a global virtual team. Innovation occurred by choosing team members who were committed to a creative team environment. Team creativity online was strengthened by providing opportunities for the global virtual team to meet in person. Alternative brainstorming methods outside the scheduled team meetings also added to the overall innovation of the team. Flexibility with the virtual office and meetings provided a platform for the team to think outside the box. Team members achieved a unity of ideas as they used innovation and creativity to address large and small challenges as a global virtual team. Connectivity and other challenges of working remotely can be effectively managed to foster best creativity practices in a global virtual team

Keywords: global virtual teams, innovation, creativity, team dynamics, brainstorming

Introduction

As technological advancements and a global economy continue to increase and converge, global or virtual teams are becoming the standard for businesses instead of the exception. Global virtual teams (GVT) have been simply defined as "a way of life and work in a specific geographical area with its own set of business conditions, cultural assumptions, and unique history" (Gluesing et al., 2003, p. 354). Maznevski and Chudoba (2000) added that these teams are "global in their task" (p. 474). Many larger companies in most industries are relying on virtual teams as an integral part of their business (Gibson & Cohen, 2003; Hertel et al., 2005). According to some scholars, the shift to GVTs has come as a consequence of and reaction to advances in technology (Bergiel, Bergiel, & Balsmeier, 2013). These teams are reflective of companies that are taking advantage of improved technological advances in communication, acting on a desire to streamline costs, improving processes, and reacting to global expansion in industries (Kelley 2001; Eppinger & Chitkara, 2006). Companies use virtual teams to overcome wide-ranging geographic issues including undesirability of location, employees who do not wish to move or for whom moving is cost prohibitive, or employees acquired in a merger (Cascio & Shurygailo, 2003). Also, increasingly unique projects and diverse stakeholders in global communities have increased the demand for GVTs worldwide (Peña-mora, Vadhavkar, & Aziz, 2009).

One important focus of GVTs, as in traditional teams, is to foster creativity. (Nemiro, 2004; Mumford, 2011). Creativity as a factor in the effectiveness of GVTs continues to be a developing area of research. Virtual teams' creative potential is directly affected and can be limited by their degree of remoteness and by the number of communication methods used in the

team (Kratzer, Leenders & van Engelen, 2005). Work environments need to be purposefully designed to meet the unique needs of a GVT (Nemiro 2016). At the same time, effective global teams function as "communities of innovation" (West, 2009) that incorporate attributes including "dynamic expertise, entrepreneurship, inquiry, group reflectiveness, innoversity, motivation, and new boundaries" (p. 321-324).

However current research on creative groups does not often directly study GVTs and how to improve their creativity uniquely. More research is needed to show examples of effective GVTs, what makes them effective, and how creativity occurs in these teams. This study attempts to show how GVTs can better foster creative possibilities for improved innovation by studying an innovative global accelerator company. It will also show how team dynamics affect creativity and innovation in a global team.

Literature Review

Global virtual team members are willing to embrace an inventive and enterprising work environment, and integrate as necessary to reach creative outcomes (Piccoli, Powell & Ives, 2004). Instead of operating independently, creativity and innovation are inseparably combined through the stages of the GVT's creative process from idea generation through final evaluation (Nemiro, 2002). Recent literature also suggests that with the increase in all types of virtual teams in organizations, instead of comparing virtual with face-to-face teams, current research should instead be focused on the types of behavior, such as creativity, in virtual teams (Martin & Shalley, 2011).

In one such strategy, termed *collaborative emergence* by Sawyer and DeZutter (2009), groups collaborate in an undetermined, unrestricted process (p. 82). Group decisions occur

spontaneously based on the previously suggested ideas and changes are encouraged. Also, group members participate as equal partners in collaboration. As GVTs are open to this dynamic, creativity is improved and new ideas are generated. West (2001) suggested a similar process for a flexible creative process in groups where "workers...chase the moving target that is innovation by encouraging them to work on ideas they feel are interesting and with whom and what resources they think will help them best." (p. 324)

However, creativity in GVTs faces significant obstacles. One of the main challenges to creativity in GVTs is a result of their very characteristic of being dispersed in nature. The physical interaction and observation that supports traditional team creativity does not exist in GVTs (Malhotra, Majchrzak & Rosen, 2007). In addition to team members being physically separated, they often have language and cultural differences, and face challenges in effectively managing technology as they manage their projects (McDonough, Kahn & Barczak, 2001; Rice et al., 2007; Bergiel, Bergiel, & Balsmeier, 2008). Creativity may be negatively affected by team members' inability to make personal connections with each other (Kayworth & Leidner, 2001). While multicultural teams benefit from the added creativity that can come from diversity (Stahl, Maznevski, Voight, & Jonsen, 2010), challenges may come from different cultural perceptions of what creativity and meaningful creative input means as part of a GVT (Crotty & Brett, 2012). Also traditional ways of managing team structure, interaction, experience, communication, and development may need to be reevaluated in the GVT (Kirkman et al., 2002).

Once the GVT has been formed, team members have to find ways to foster creativity, particularly in a virtual team. Sawyer (2007) argued that "collaboration is the secret to breakthrough creativity" (p. ix). He suggested that contrary to previously held beliefs about

individual genius leading to groundbreaking innovation, it is actually the context or creativity of

the collective group that brings about the most impactful developments. In such groups, certain

conditions of group structure will be present, including specific goals, team members who listen

attentively and concentrate on the task at hand, flexible autonomy, and an attitude of

participation and a minimizing of egos. Creative groups will also have familiarity and good

communication with each other, keep the group project moving ahead, and the appropriate

tension of possible failure (Sawyer, 2007).

West and Anderson's (1996) description of creative teams offers similar structural

suggestions, including "team objectives, participation, task orientation, support for

innovation...along with group inputs" (p. 681). Resources available to the team can also

influence the team's creativity, but that is not the greatest determining factor of ultimate

innovative performance. In addressing the composition of the team, several factors should be

considered, such as optimum team size is recommended to be no less than three but no more than

12. Longevity in team size can minimize innovation and may want to be avoided because team

members become too comfortable with each other (Kratzner, Leenders, & van Engelen, 2004). In

contrast to Sawyer (2007), West and Anderson claimed that the personality of innovative

individuals on the team will significantly influence the overall team's collective performance.

The composition and diversity of virtual teams also encourages creativity (Bergiel, Bergiel, &

Balsmeier, 2008). Team members' creative efficacy, or belief that their team can create a work

environment that fosters innovative ideas, is another key element of creative teams (Shin &

Zhou, 2007; Shin & Eom, 2014).

Communication in the creative team is a delicate balance. While the nature of remote work requires scheduled times for communication, if there is too much communication, creativity in the team decreases (Kratzer, Leenders, & van Engelen, 2004). For communication to flow effectively, team members need to have ready access to all of the information being discussed (Fried & Hannson, 2013). If the information is not easily available or team members do not know how to find it, creative outcomes will be limited. Team members need to identify different personal and cultural communication styles (e.g. direct/indirect, high/low context based on behavior, etc.) and their perceptions of team communication (Henttonen & Blomqvist, 2005). Without an agreement of team communication perceptions, creativity in the group may be hindered by bias or misunderstandings.

Challenges to the Creative Virtual Team

The benefits of a global team also bring challenges. Global team dynamics are affected by many factors, including a difference in time zones combined with often a rigid schedule that may stifle creativity (Saunders, Van Slyke, & Vogel, 2004). While deadlines would be expected for product development, for an ideal creativity environment, a more flexible timeline may generate better ideas. Unreliable internet connectivity can also cause frustration for global teams. While some challenges will be unavoidable with remote countries and locations, updated software, and backup plans for disruption can minimize conflict in a team's ability to work cohesively and generate ideas together.

Certain types of virtual work spaces are more conducive to collaboration. For example, using a company web page work space to keep track of project progress or video conferencing is considered more effective than email for generating ideas (Dyer & Dyer, 2013; Hinds &

Westband, 2003). The more team members who are involved and the more complicated the

ideas, the more video conferencing is essential to creativity and collaboration (Dyer & Dyer,

2013). Successful GVTs prioritize identifying and evaluating the effectiveness of their virtual

work spaces.

  With team structure composition when there is a difference in the primary language of all

team members, communication misunderstandings may arise. Creative emergence can be

difficult to achieve. Virtual meetings managed by one leader can be less likely to result in

spontaneous ideas (Ocker, 2005; Sawyer & DeZutter, 2009). However having a motivational,

creative team leader is one of the most effective ways to promote creativity in your GVT (Shin &

Eom, 2014), so their role should not be undervalued. The successful GVT leader ideally

functions as a type of "virtual coach" to encourage best creative practices from her team,

particularly when team members are struggling (Blackburn, Furst & Rosen, 2003, p. 102).

Furthermore, GVT leaders that engage successfully with team members and encourage them to

connect both through project work and personally will have the greatest chance at creating an

innovative work environment (Nemiro, 2004).

  Ability to collaborate is another challenging, but critical factor in the creativity of GVTs.

Creativity is strengthened as GVTs facilitate participative communication (Daim et al., 2012, p.

203). Hulnick said, "if technology is the foundation of the virtual business relationship,

communication is the cement" (Hulnick, 2000, p. 33). Virtual teams are more formal because of

technology barriers (Gibson & Cohen, 2003). Conversations may be less spontaneous and

task-oriented so creative activities may need to be more actively factored in and team members

encouraged to participate. Although unplanned, emergencies can also generate unexpected

creative solutions (Sawyer, 2001). Increasing opportunities for spontaneity may replicate the creativity without adding unnecessary stress to the team.

A creative GVT requires engagement. Team members need to learn to be active participants in virtual team communication and conversations (Bergiel, Bergiel, & Balsmeier, 2008). Training and setting expectations for meeting participation can help team members know what is expected. Face-to-face virtual meetings (ex. Zoom meetings) are particularly important for establishing the team dynamic at the outset of the team interaction (Kelley, 2001). Also, research has shown that overall virtual team creativity will be stronger when creative ideas are put forth as the team begins meeting, so encouraging creative engagement from the beginning is critical (Ocker, 2005).

Efforts to promote participation among team members and virtual team building can also mitigate some of the dispersed challenges, while fostering creativity. As team members participate in creative interaction with each other, and also problem-solving on non-project related tasks, overall team creativity can be enhanced (Blackburn, Furst & Rosen, 2003). Also, the nature of virtual team relationships has been linked to increased or decreased creativity, which would be additional incentive to find ways to strengthen those relationships, although arguably more difficult than in traditional teams (Cramton & Orvis, 2003). Global virtual teams that create "virtual water coolers," chat programs where employees can connect and post work or non-work related information, but no response is required (e.g. they can post a favorite YouTube video or animal meme), is one method of encouraging these remote team relationships (Fried & Hannson, 2013). Similarly, beginning GVT meetings with a "check in period", where team

members share something about themselves and how they are, facilitates improved concentration on tasks, including creativity, as overall focus is improved (Cramton & Orvis, 2003, p. 226).

Global virtual teams, perhaps more than traditional teams, need to understand what tools are available to them as teams to maximize their creativity and innovation in a worldwide marketplace, but current literature often does not directly link global teams and creativity. Furthermore, the technology and communication capacities for GVTs have advanced significantly in recent years, and research on the collaboration methods for GVT creativity is also limited (Jiminez et al., 2017). More research is needed to show examples of effective GVTs, what makes them effective, and how creativity occurs in these teams. More also needs to be understood about the innovation process in the GVT and what factors in and outside team meetings contribute to its success. Furthermore, how can the challenges to GVTs be mitigated so that creativity can reach its highest potential. This study attempts to show how global teams can better foster creative possibilities for improved innovation. It will also show how team dynamics affect creativity and innovation in a global team.

The Present Study

While we have information about the context, composition, and structure of global virtual teams (GVTs), research has not provided much data about how these characteristics interact from a creativity perspective. We do not know what role evaluation should play in achieving improved creativity using the outlined guidelines. Creativity studies are generally isolated to one narrow aspect of global teams as opposed to the team culture as a whole. Better understanding of creativity and innovation in global teams as seen through team dynamics and interaction is the purpose of this study and will add to knowledge in this increasingly important area of research.

In this qualitative study, we seek to fill this void by researching the dynamics of a global team in connection and how team interactions and dynamics affected their creativity and innovation. Specifically this study will investigate the following questions:

1.   How does creativity and innovation occur in an example of an online global team?

2.   How do the team dynamics of this online global team foster creativity and innovation as they mitigate the challenges of dispersed interaction?

Methods

Research Design and Setting

To answer our research question, we studied Startup Grind Inc. This company "is the largest, independent startup community, actively educating, inspiring, and connecting more than 1,200,000 entrepreneurs in 400 cities" (retrieved at https://www.startupgrind.com/about-us/). In partnership with Google for Entrepreneurs, they encourage entrepreneurship and foster startup organizations in 150 countries. Founded in Silicon Valley, Startup Grind's global community features monthly events in cities worldwide where accomplished entrepreneurs and innovators share their ideas and best practices for success. Startup Grind hosted over 7,000 fireside chats in 2017 and has helped millions of entrepreneurs find "mentorship, connect to partners and hires, pursue funding, and reach new users." (retrieved at https://www.startupgrind.com/about-us/)

The global community team that manages Startup Grind is unique. In the past year, they have grown the organization from 250 chapters worldwide to 365, with a projected growth to 600 chapters by the end of 2018. They are based in different locations on four different continents by employees of different nationalities. The global team currently meets

in person only twice times a year. As global teams become the norm for successful

organizations, the global team at Startup Grind (SG) provides a unique research perspective

for how it generates creativity and innovation, overcomes challenges of dispersed teams,

achieves success as a global team, and builds on their team collaboration and innovation to

improve organizational operations worldwide.

Our study is a qualitative case study of Startup Grind. A case study approach can provide

insights with detailed descriptions and a breadth of analysis needed to provide in-depth

understanding (Stake 2005, 2010). The richness of the case analysis can also provide the themes

and desired context into how creativity and innovation occurs in a GVT (Henttonen &

Blomqvist, 2005; Jarvenpaa, Knoll & Leidner, 1998; Jarvenpaa & Leidner, 1999;

Kuruppuarachchi 2009; Pauleen & Yoon, 2001).

Participants

The participants are members of the Startup Grind Inc. Global Community Team, a

global virtual team. There were five members of the team, one woman and four men. The team

leader and one member of the team had been members of the corporate team for more than two

years. The other team members were new to the company in 2018. All team members worked

remotely full-time. All team members had some previous experiences working remotely, but for

some team members this team was their first experience on a full-time virtual team. All team

members spoke English fluently, but English was not the first language for two team members.

Team members worked together from four different continents: Africa, Asia, Europe, and North

America. The sample size is appropriate since this is the current membership of the case study

team being studied. To protect anonymity, subjects were identified by gender neutral names:

Alex, Cameron, Jamie, Taylor, and Morgan. They were also identified by their role on the team—team leader or team member.

Data Collection

Data collection consisted of surveys, interviews, and team meeting observations with team members over a two-month period in July-August 2018. First, the lead author emailed team members a seven-question Qualtrics open-ended/closed-ended survey to complete and return. The purpose of the survey was to establish a basis for team members' perceptions of creativity and innovation in online teams. Next, she interviewed individual team members for approximately 45 minutes each using Zoom, an online communication tool, regarding their survey answers and the study research questions. Interviews were audio and video recorded. The team leader recorded two approximately one-hour weekly team meetings during this time period. To facilitate improved objectivity for the meeting process, the lead author watched the recordings of the team meetings at a later date to observe team behaviors, interactions, and communication related to creativity and innovation. After watching the team meetings, she conducted a follow up interview with team members for approximately 15 minutes each using Zoom regarding their participation in the team meetings. These interviews were also audio and video recorded.

Data Analysis

After collecting all the data from surveys, interviews, and meeting observations, the lead author coded and analyzed data from for this study using a holistic and interpretive stance (Stake, 2010; Spradley 1979) looking for key themes (Yin, 2017). Using the Stake (2010) coding method, data was classified and categorized into major topics and themes

based on the research questions. As data was analyzed through subsequent rounds of interpretation, categories were narrowed into the most important themes, and topics and subtopics emerged. The discussion and findings are based on those key themes.

Trustworthiness

Using the Lincoln and Guba (1994) guidelines for trustworthiness further strengthens the credibility of the data provided on the team innovation and creativity process. Several data collection methods are used for triangulation of findings. In addition, member checking, peer debriefing, and negative case analysis are all used to manage bias and strengthen validity. For member checking, interview responses were verified with participants for meaning and clarity using verbal confirmation, subsequent interviews and follow up collaboration. For peer debriefing, findings were discussed as a research team and with other peer scholars. For negative case analysis, interview data was compared to additional data collected in surveys and observations for inconsistencies or divergences in meaning.

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Findings and Discussion

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We will first share a description of an example team meeting, and then our findings in the context of the research questions, and finally discuss the themes and their connection with the broader research literature.

Example Team Meeting

As the Startup Grind (SG) Community Team weekly meeting begins, five individual square screens appear on the larger screen, three on the top row, two on the bottom row. The team leader, Alex, appears in the center square. Each team member is casually dressed and the different backgrounds of their homes or work spaces are visible behind them, reflecting the

cultural influences of the countries where they are located. Each team member's connection to

the meeting appeared to be clear and without interruptions. The meeting began with team

members taking turns sharing updates on their responsibilities. As a team member shared its

update and experiences or challenges, other team members appeared to be paying close attention

to the commentary. Team members seemed to each be looking in the camera, focused on the

team member who was speaking and the updates. They also provide physical attention cues, such

as nodding, to acknowledge team member comments.

      As part of the meeting, they participated in a brainstorming session to evaluate how to

increase local chapter attendance in addition to the monthly events by adding workshops. The

initial brainstorming focused on the pros and cons of workshops. Alex, the team leader,

explained the idea they would be discussing and how it fits into their vision for the company.

Team members freely asked brainstorming questions, expressed concerns or ambivalence, or

suggested how the idea could be effective. One team member asked for clarification on how the

idea should work. Another team member said they were concerned about the quality of the

workshop. One team member reminded the team that there were not a lot of downsides to

workshops. Another team member asked about the logistics of the event. A shared data screen

allowed Alex to show a visual representation of how the workshop would be organized,

providing for additional brainstorming by team members.

      In the meeting, all team members took turns speaking and no one team member

dominated the discussion, although the team leader stepped in as needed to guide the

conversation. After an initial brainstorming phase, one team member suggested the team had not

clearly established how they would run a SG workshop. Alex expressed how he would suggest

running the workshop, giving freedom to the individual chapters to run the workshop as they

chose using the SG brand, but then gave the creative process back to the team for brainstorming.

In their collaboration, team members asked questions about the workshop process. They shared

additional ideas. They collaborated on their shared data screen. They decided together that they

needed a basic structure and guidelines for the workshops, but they would retain ultimate control

of the workshop process. Alex walked the team through how their ideas would come together for

the workshop to be set up through their online platform. Taylor described the end result, "This is

about to be the best workshop Cape Town has ever seen." Morgan also shared his enthusiasm

with the innovation results, "I think it's going to be a unicorn!"

Innovation through Choosing the Right Team

In a GVT, a foundation for innovation is established long before the first meeting ever

occurs. In the SG team, the data analysis showed that Alex identified team members with

different strengths to compliment each other and foster creativity and innovation in the team. The

main criteria he looks for in team members are "a positive attitude, a willingness to learn, and to

do as they say." He used his network connections in the entrepreneurial field to find potential

team members. He selected some members who had had a past affiliation with SG, but also

others who had not. While all of the team members in this study had experience working online,

Alex was most concerned with their attitude for contributing to the team. He articulated his

strategy for the team as "Set expectations from day one about team culture and their role. If you

don't outline that properly, [it won't work]."

The data analysis showed that how team members perceived the diversity of the team was

also a key factor in what strengthened the innovation of the team. While the team members are

from four different nationalities, different genders, and three different cultures (American, European, South African), other differences in the team may have additional impact on how creativity and innovation occur. Morgan described the benefits of a diverse team to the innovation process:

> [There are] people from all sorts of different backgrounds. We have different perspectives. Some are more structured. [They] can be organized in the brainstorming process. Others [are] full of energy and passion and [share] ideas and try to make things happen. I think it's good to have different kinds of approaches.

Jamie said of the team's diversity related to creativity and innovation, "Each of us has vast experience in our own way, which helps us approach different tasks with different mindsets, and often we help each other pick up or think of things we normally would not [think of] on our own." For Taylor, the greatest strength of the team is "having a diverse team that is committed to making a difference in the world globally."

Team members viewed their different roles as a benefit to the innovation of the team. One team member described themself as the "voice of reason". Another team member hoped to emphasize innovation more. Another team member wanted to be as passionate as other team members in sharing ideas. Jamie explained that the team had great unity, "As [a team member] champions an issue, the other team members...rally around them and say, 'You be the lead, how can we help?" On the SG team, as Taylor described it, "there is room for different avenues" in achieving creativity and innovation. The team member continued, "Creativity and innovation exists in so many different formats. It can't be prescriptive….For me a meeting might be boring, but for someone else it might be their most creative place. Everyone needs to have their ideal

environment." The team members with their individual talents adapt their skills to work with those on their team as they navigate innovation in the virtual team.

Innovation through Connecting in Person

In analyzing key factors for creativity and innovation in the team, one key factor for innovation emerged that was absent from the research literature. Team members directly related their ability to be creative and innovative in virtual team meetings to having met together as a team in person on two occasions earlier in the year. It was having the opportunity to build relationships and get to know each other as they met, strategized, and worked together in person for that brief period that facilitated their current effectiveness in brainstorming and developing creative ideas as a team. Alex described meeting face-to-face as "the ultimate" in activities that result in creativity and innovation. Taylor explained why the process builds innovation, "There is a lot of power in facilitating how to get people to work together. In-person time to do that is critical."

In the surveys and interviews, all team members expressed the desire to meet together in person more often, in spite of significant distance between the countries and continents where they live. Jamie said, "Getting together is the main thing really for major innovation." Alex suggested that an additional team retreat could improve their team innovation. For Cameron, the relaxed environment of being together would allow them to disconnect and share ideas in a way that isn't possible in the online team meetings. While they do meet at least twice yearly at the global conferences in Palo Alto and in London, at least for the present, cost has made additional meetings prohibitive.

Innovation through Alternate Brainstorming

Brainstorming is not a new idea in teams or in the creativity and innovation process. The data analysis provides additional insight into how the brainstorming manifests itself in the SG team innovation. Morgan described the traditional brainstorming that takes place on their weekly team calls, "On a weekly basis, we brainstorm and that is the creative process. We try to come up with ideas and we also try to correct the existing product that we already [have], and that is how we do it at this point." Taylor described the process as a "chain reaction" that was "better than my original thoughts would have been." These brainstorming sessions resulted in finding ideas to meet their fiscal goals, addressing issues with chapter directors around the world, and finding solutions for meeting calls to countries with poor connectivity.

However since team members were not walking around in a traditional office to interact, they had to find other ways than the formal team meeting to maintain creativity and innovation. The analysis showed that one important method was weekly "jam sessions" between two team members. A jam session is a one-hour period where two team members work on independent projects with their computer screens connecting (via Zoom or another online service). During the session they may talk about what they are working on, ask about ideas, or talk socially. They have a flexible agenda. Sometimes they are free form and sometimes they have some kind of goal. As Cameron explained, "It helps to create a 'normal office vibe.'" The team also has another time during the week when they know that all the team members are online at the same time. During this time, they may call or chat with other team members and know that they will be available to share ideas. Communication channels such as Slack and Trello are also beneficial for generating ideas between team members and are preferred to email.

While not sharing ideas in a physical office, each team member values scheduled time for

brainstorming about specific team issues outside of set virtual office hours. While they were not

necessarily asked weekly to report in the team meeting on a specific idea, most team members

appreciated the structure of scheduled time outside of work to brainstorm and find innovative

ideas to take back to the team. For some this brainstorming takes the form of talking to

colleagues in the industry about the issues at hand or attending conferences to gather additional

information. For others it is being in nature or being alone. Cameron reflected, "The best

creativity for me is when I have time to think about something ahead of time. Then we have time

to [come together in the meetings and] talk with each other later [about those ideas]. That's when

the best things happen."

Innovation through Team Flexibility

While the lack of physical interaction may be limiting for the global virtual team in some

respects, in other key ways, the analysis shows that the flexibility provided by the virtual team

work environment provides additional opportunities for creativity and innovation. Team

members are more available to share ideas because they work remotely and they have the

expectation of working at nonstandard hours and wherever they go. Morgan commented on how

team flexibility benefited both the team and the process: "It's amazing that we are all remote

because we have flexibility and we don't have to sit in the office from 9-6. We can do other

things and we are producing all the goals that we are trying to accomplish."

Team members also have the flexibility of the physical work environment of the

virtual meeting room. Formal meeting norms that might exist in a face-to-face meeting, such as

dress expectations, are minimized and virtual team members may feel more able to speak freely

in an online meeting where physical barriers to creativity and innovation have been mitigated (DuFrene & Lehman, 2015). Of the SG team, Alex commented, ""I like to see the team feeling relaxed in their own space, so that the individuals can share their viewpoints freely. These differing viewpoints can be the foundation of innovation, and ideas without practical implementation can be discarded earlier, and without offence." Morgan said, "The team is supportive and excited [about new ideas]".

Unity of Ideas through Innovation

Jamie described the team's innovation journey to discovering new ideas in this way: "We end up . . . pushing our own boundaries. . . . By expressing our points of view, some of our team start thinking on similar lines. . . . As we work closer together we all get more in sync. . . . I like to think as we get more coherent that we start thinking more alike." The analysis of the team dynamics shows the importance of collaboration to creativity and innovation in the SG team. Alex commented on the team collaboration on ideas: "I hope they feel like [they are all equal contributors]. I make sure that everybody is there [in the meeting]. Everybody has to agree on the path forward. If everybody is in agreement, I know that everybody has had their say. If there is a strong opposing opinion within the team, we work to find a compromise."

Examples of the team's innovation process in action show creative ideas for major and minor challenges that incorporate multiple ideas and perspectives, sometimes over a lengthy time period, to reach a solution that team members felt good about and support. One example of a smaller problem the team recently brainstormed in a team meeting was how to have better connectivity for SG chapter directors in countries with poor connectivity, specifically Africa. One team member presented the problem, then all of the team members shared ideas about

possible solutions for improving how the team member connected with them. Through ideating about how team members manage connectivity and calls to remote countries in their own areas, they were able to offer potential ideas for this team member to improve his director relationships and calls based on their own experiences and challenges with connectivity. The connectivity issue will likely remain unchanged, but as a team, they were able to collaborate and identify better ways to connect with their directors.

A larger problem the team recently faced was a chapter director in a less developed country who claimed there was a rogue SG director in the same city who was not registered and was taking attendees from the registered director's events. There were differing opinions in the team about how to handle the rogue director and the ideas were shared and debated. Possible ideas ranged from minimal intervention to shutting down the rogue chapter to kicking out both "directors". The team had to brainstorm about the best option, as well as the most fair option. After considering the ideas, the team reached out to the rogue director and they discovered he was actually doing a very good job with his unregistered chapter, but lacked information about the process. The team was able to add him to the system, he became part of the larger team, and the crisis was averted. The team was willing to be creative in an unknown situation and a potentially volatile situation remained positive for all parties. As Taylor described the creative process for this idea, "We were able to be comfortable in the grey. As a team we worked through it." As a team, they discovered that creativity and innovation brought flexibility and adaptability to previously unknown situations, but still allowed every team member to be comfortable with the final decision to add the previously "rogue director" to the SG system and allow him to work alongside the registered director in their city.

Limitations and Implications for Further Research

There are limitations to the findings of this study. The Startup Grind Inc. Global Community Team, while noteworthy in its industry accomplishments and creativity and innovation findings for this study, is only one global virtual team. With its small size and as a technology company, the study findings might have limited appeal to a broader audience and may not have wide generalizability. Also team members recognize English as their native language or spoke it fluently. Different cultures or languages could affect team dynamics related to creativity and innovation. Other limitations are related to the size and scope of the study. The lead researcher spent limited time with the team members in two interviews and observations over a relatively short period of time. Additional interviews and observations over a longer time period would yield a greater depth of results.

While not a significant focus in themes and analysis for this study, the participants did mention challenges to their ability to be creative as a team. Internet connectivity is an ongoing issue for all global remote teams, including the SG team, even in countries with good connectivity. Connectivity issues had a minor effect on the image and sound quality at times in interviews and team meetings for this study and could certainly impact creativity and innovation in global virtual team meetings if there were connectivity problems. If a team member was living or visiting in a country with poor connectivity, creativity and innovation participation would be impacted. Finally, one of the greatest challenges to creativity and innovation in a GVT is the corporate bottom line. The ideas must support the company structure, team responsibilities, and executive vision and goals. As one team member explained,. "It's great to be innovating and

amazing, but at the end of the day, if you can't deliver on it, and you can't get the work done, you can't be innovative."

The other significant finding from this study is that while GVT members are passionate about their remote work, they want to meet in person more often to be their most creative and innovative as a team. In the example from this study there are cost considerations for meeting that may not be the case in other GVTs, however, the findings and analysis show that remote connection does not replace human interaction for creativity and innovation and has an impact on performance potential.

Conclusions and Recommendations

This research study on a Startup Grind global virtual team (GVT) provided several important insights into how creativity and innovation can be strengthened in a GVT. First, the data suggests that even an effective GVT such as this one still needs in person interaction for optimum team cohesion and innovation, at least for the beginning stages of its existence as a team. Global team literature historically references positive outcomes from initial meetings of global teams, but studies that show implications for the effects of ongoing meetings are few (Mavneski & Chudoba, 2000). It is also critical to develop trust in a GVT that facilitates positive communication, no matter how often the team is able to interact in person, and recognize that this process may take longer with a more diverse team (Jarvenpaa & Leidner, 1999).

Second, while creativity and innovation may seem to occur spontaneously in a GVT, for the optimum creative process to occur in this team, conscious planning was required. Third, the creativity and innovation in this GVT was impacted by factors that are inherent to GVTS, with connectivity and time zones as two significant challenges.

Recommendations from this study include that global virtual teams should make in-person team meetings a priority in their schedules and budgets, even when it may require sacrificing other financial outcomes. If these meetings are scheduled around corporate events, separate time should be scheduled for the GVT to meet and share ideas together in person. When in-person time is not feasible, having unscheduled time where one or two team members associate informally online, whether in "jam sessions" such as those discussed in this study or "water cooler time" where team members meet online and have normal office conversations, can improve team relationships and benefit overall team creativity and innovation. Spontaneous ideas may also be shared in these informal online team gatherings. Training for the team on creativity practices may also strengthen the group's ability to brainstorm ideas as they work together (Rosen, Furst & Blackburn, 2006). This team preferred a structured, agenda-style method for brainstorming in team meetings.

This study showed that adding deliberate structure to the creative process led to improved creativity and innovation for the team. Thus, GVT team members should be given the opportunity to prepare before attending the brainstorming session. While the creative process will be different for each person, as team members have time to consider and brainstorm about an issue on their own before discussing it with the group, they can be part of a refining creative process before the larger team meets to discuss the issues at hand. Training for the team can also benefit the team's creative abilities (Rosen, Furst & Blackburn, 2006).

Third, when connectivity is bad, innovation suffers, and thus GVTs depend on reliable internet connectivity (Daim et al., 2012). They also need to establish regular meeting times that are convenient for all team members where brainstorming will occur and keep those

commitments. For the SG team, this regular meeting time where all members were available and able to fully participate in their time zones was essential to the creative process taking place.

Implications for Future Research

There are still many more areas of research needed in creativity and innovation in global teams. We would benefit from understanding how longevity in a team affects the creativity and innovation? Does creativity increase as the number of in-person team meetings increases? Until what point? Does the need to meet in-person continue with the longevity of the team? How does cultural diversity and background affect innovation practices? Are informal meetings as effective as formal meetings for creativity and innovation? What role should formative evaluation play in a team's innovation process? More research on these issues would give us greater knowledge about how to improve creativity in a global team.

Global virtual teams will continue to increase as companies become more globalized and as technology improves across the world. Understanding how to effectively use creativity and innovation in these teams and for these team members will be critical for this rapidly expanding section of the workforce. Companies and managers will need to look at the innovation process with new ideas and perspectives to achieve the best results from their global virtual teams.

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Appendix A

Schedule and Budget

The project schedule was significantly delayed due to unforeseen delays in IRB approvals (see Table 1). The IRB application was submitted in April 2018 and was not approved until June 2018. This challenging setback resulted in subsequent delays for the research plan schedule of approximately two months in each area. An adjusted schedule continued to be followed to ensure data was collected as closely as possible according to original plans and was analyzed correctly. The original goals of the project were still met and the project was still completed in a timely manner, but not in the timeline originally anticipated.

Table 1

Research Project Schedule

Research project section	Estimated time for completion	Actual time for completion
Research and Literature Review	April-May 2018	April-September 2018
Surveys	May 2018	July 2018
Interview 1	May 2018	July 2018
Observations	May 2018	July-August 2018
Coding and Analysis 1	May-June 2018	July-August 2018

Interview 2	June 2018	August 2018
Coding and Analysis 2	June 2018	August 2018
Final Research Report	June 2018	August-September 2018

As estimated, there were no out-of-pocket monetary costs for this project. The material

resources required were a laptop computer, printer, paper, telephone, and internet connection--all

in the prior possession of the researcher. The estimated time budget for this project was 78 hours,

at a total cost of $1170 ($15 per hour) (see Table 2). The actual time spent was more than

originally estimated, 97 hours ($1455), because more time was needed for the literature review

and for writing and revising the project. Less time was required for some of the research and

analysis.

Table 2

Estimated and actual research project budget

Research task	Budgeted time and cost ($15/hour)	Actual time and cost ($15/hour)
Research and Literature Review	18 hours ($270)	25 hours ($375)
Surveys	6 hours ($90)	6 hours ($90)
Interview 1	12 hours ($180)	15 hours ($225)
Observations	12 hours ($180)	8 hours ($120)
Coding and Analysis Part 1	12 hours ($180)	8 hours ($120)
Interview 2	12 hours ($180)	10 hours ($150)
Coding and Analysis Part 2	12 hours ($180)	5 hours ($75)
Final Research Report	6 hours ($90)	20 hours ($300)

Total Time Estimate	78 hours	
Total Cost Estimate	$1170	
Actual Time Spent		97 hours
Actual Cost Incurred		$1455

Strengths and Weaknesses

There were many strengths to this project. This project has a well-researched literature review. The lead researcher is a doctoral student at BYU. The co-researcher has a PhD and is a professor of instructional psychology and technology at BYU. Both researchers for this study have strong backgrounds and experience in research methods and previous experience in conducting research studies. The global virtual team being studied is a unique, diverse team that has demonstrated success in its field using established creativity and innovation practices. The study methods for this report were organized and conducted effectively and according to a research plan schedule. Trustworthiness standards were used for increased credibility. Data analysis identified the five areas of greatest innovation in the team: innovation through choosing the right team, innovation through meeting in person, innovation through alternative brainstorming, innovation through flexibility, and a unity of ideas through innovation.

This project could have been improved if the study had been conducted over a longer period of time with additional interviews, and observations of the creativity and innovation process. There was also not sufficient time in the study to cover additional team dynamics that could impact creativity such as culture, languages, gender, and time working remotely, and related issues. Studying the team's alternate creative processes in more depth would have also added to the study. It would also have been beneficial to meet the team members in person,

which was not feasible given their locations on four different continents. The study was

significantly delayed by IRB approval which may have impacted the information collected.

Some difficulty with internet connectivity during portions of the data collection may have also

impacted the responses that were shared. Furthermore, in a longer study, there could be more

comparison to other global virtual teams in the technology sector and in other industries.

However, in spite of these constraints, this was a successful study that provided a

contribution to the literature on creativity and innovation in global virtual teams, as well as

performance feedback to the team on how to improve their processes going forward.