Role of Perceived Supervisory Support and Communication Competency in Making Virtual Teams More Effective

Jude Ashmi E,

Doctoral Student,
Institute of Management Christ University
Central, Bangalore, India

Dr. Arti Arun Kumar*,

Assistant Professor,
Institute of Management Christ University
Central, Bangalore, India
(Corresponding Author)

ABSTRACT

Teams within an organization have to be effective if the organization is to succeed. However, advances in telecommunication, which have led to the so-called 'global village', have enabled organizations to deploy virtual teams, which saves space, money, and time. The factors that make such teams of geographically dispersed members effective were identified by analysing the responses of 126 employees who were members of such teams to standardized instruments and a review of relevant literature. The key components of team effectiveness turned out to be directly influenced by two main factors, namely communication competency and perceived supervisory support.

Keywords: Virtual Teams, Virtual Team Effectiveness, Communication Competency, Perceived Supervisory Support and Virtual Team Collaboration.

INTRODUCTION:

The last decade has seen a sea change in the way organizations function. India's exponential growth as a new business superpower and the impact of globalization, information technology, and the digital revolution have changed the country's economic landscape. The paradigm shift from product-based organizations to service-based organizations and from asset performance to people performance has brought with it its own challenges. The workforce now includes members of Generation X (born between 1966 and 1976) and Generation Y (born between 1977 and 1994), for whom suitable models of flexible working hours – keeping in mind their changing definition of work, which includes work/life balance – are yet to evolve. As India recovers from recession, organizations in India will have to deal with global labour markets and VUCA environments (short for volatile, uncertain, complex, and ambiguous) generated by offshoring and other multi-level strategies.

The term virtual teams is now almost synonymous with global business and has become such a part and parcel of the business world today that members of such virtual teams fail to recognize the challenge posed by having to work with culturally diverse colleagues who are often separated in space and time as well. That virtual teams are now widespread can be seen in the report titled *Trends in Global Virtual Teams* (RW3 CultureWizard, 2016), which is based on a study that involved 1372 respondents from 80 countries: 85% of the respondents work in virtual teams; 63% are members of one to three teams; and 22% work in at least four virtual teams. Compared to previous year's survey, teams have more globally distributed members than ever before and mentioned changes in the following areas: geographical distribution (79%), cultural diversity (74%), disciplinary focus (73%), and gender diversity (40%).

REVIEW OF LITERATURE:

Given the increasing popularity of virtual teams, it becomes essential to assess their effectiveness. Virtual teams help in getting the best talent on board (Gibson & Cohen, 2003; (Maznevski & Chudoba, 2000). (Lin, Standing,

& Liu, 2008) identified two categories of factors that contribute to the effectiveness of virtual teams, namely socio-dimensional and task-dimensional, but concluded that neither has a significant relationship with effectiveness and that cohesion, relationship building, and trust are important.

Recent developments in the area of the effectiveness of virtual teams have repeatedly highlighted the need for trust in virtual teams (Kanawattanachai & Yoo, 2002). Research also suggests that trust developed through effective communication improves the performance of a team (Ebrahim, Ahmed, & Taha, 2009; (Hossain & Wigand, 2004); (Jarvenpaa & Leidner, 1999); (Jarvenpaa, Knoll, & Leidner, 1998); (Kayworth & Leidner, 2000). Most of the studies on team effectiveness maintain that effective communication is a primary factor in making teams more effective and in resolving conflicts.

To make up for the lack of face-to-face meetings, virtual teams use a variety of communication channels and means such as the telephone, fax, email, and teleconferencing (with or without video); however, this adds to the difficulties due to differences in language, culture, and time (Maznevski & Chudoba, 2000). The more heterogeneous the virtual team in terms of language and culture, the more complex its composition. This complexity could be resolved by developing the required competency in communicating. Communication competency is the ability of an individual to select strategies and behaviours best suited for communication in a given situation or task (Spitzberg & Cupach, 1984). (Robinson, 2014) studied different communication technologies (emailing, teleconferencing, chatting (both audio and video), and virtual work spaces) and highlighted the role of communication competency in communicating through such technologies.

Most research in the area of communication focuses on such features as cross- cultural adaptation, clarity of communication, listening behaviour, awareness of the field of conversation and feedback from communicators, and building relationships and trust (Jarvenpaa & Leidner, 1999); (Kayworth & Leidner, 2000); but no study, to our knowledge, has so far focused on communication competence and its role in the effectiveness of virtual teams. Another factor that affects such effectiveness is supervisory support, which signifies the concern for and support to the well-being of an employee expected from his or her supervisor or from a superior who is also the supervisor. Thus in virtual teams, the support of a leader is the same as that of a supervisor, and can be expressed and realized only through the communication behaviour of the supervisor or leader (Kayworth & Leidner, 2002). Hence we understand supervisory support as the communication behaviour expected by a team member from her of his supervisor.

(Ahmad, Farrukh, & Nazir, 2015) found that a strategy to make teams more effective needs capacity building, which is associated with organized supervisory support and organizational support. Supervisory support and trust have a positive impact on employee performance and team performance; employee performance and satisfaction are thus directly related to supervisory support. (Ellis & Shockley-Zalabak, 2001), in their study of the relationship between supervisory trust and team effectiveness, concluded that trust develops only through communication and feedback received by team members. Openness, honesty, and sincerity in communication were priorities when it comes to supervisory trust. Team effectiveness also depends on motivational abilities and dependable behaviour of managers. In the case of virtual teams, general satisfaction and supervisory support indirectly contribute to their effectiveness. Virtual teams with satisfied members underwent more training (Tan, Wei, Huang, & Ng, 2000) and used many more methods of communication (Kayworth & Leidner, 2000) than those with unsatisfied members, and general satisfaction of employees increased with increased supervisory effort. Generation Y employees who were members of virtual teams expected proper support and guidance from their supervisors in meeting the performance targets set for the virtual team. Relevant literature recommends job rotation of supervisors or leaders in virtual teams, and one study (Baral & Bhargava, 2010) on Generation Y clearly records that its members as employees expect supervisory support and leadership in the form of technical support, motivation, evaluation, and recognition.

The effect of supervisory support on the effectiveness of conventional (non-virtual) teams was the inspiration to explore the effect on virtual teams from the perspective of employees. From the review of literature, it was clear that the direct impact of communication competency and supervisory support on various dimensions of the effectiveness of virtual teams needs to be explored.

Team building, competency building, and positive supervisory support are being given increasing attention in attempts to make virtual teams more effective and to reduce attrition: identifying ways to do so, especially with reference to virtual teams in the information technology (IT) sector, will help in examining – and even implementing – those ways. It was against this background that the present study sought to study, in empirical terms, the relationships between the effectiveness of virtual teams, communication competency, and perceived supervisory support.

Based on the literature review, the following three hypotheses are put forward.

H1: Communication competency influences the effectiveness of virtual teams and its dimensions.
H2: Perceived supervisory support influences the effectiveness of virtual teams and its dimensions.
H3: Communication competency and perceived supervisory support predict the dimensions of virtual team effectiveness.

METHODOLOGY :

Study Sample:
The sample consisted of members of virtual teams. A questionnaire containing 68 items was distributed to 174 people who satisfied the criterion, namely two years of work experience as a member of a virtual team; completed questionnaires were received from 137 and, after cleaning up the data using SPSS the number of valid responses was 137 (a response rate of 78.7%). The responses were received online through Google forms. The respondents were assured of the confidentiality of the data.

Variables:
The independent variables in the present study were communication competency and perceived supervisory support, and the dependant variable was team effectiveness. The demographic variables were gender, age, and marital status, and data were also collected on educational qualifications, designation or job title, total years of experience, and the channel/s of virtual communication used (emails, teleconferences, and video conferences).

Instruments:
The following standardized tools were used to test the above-mentioned hypotheses.
Team effectiveness assessment measure (TEAM). The scale, developed by (Pareek, 2002) has 28 items, each of which is categorized under one of the seven dimensions and rated on a scale of 0 to 4 as follows: 0, always; 1, frequently; 2, sometimes; 3, occasionally; 4, never. The dimensions are cohesion, confrontation, collaboration, task clarity, autonomy, support and accountability. A standard scoring key is used with the scale.
Communication Competence Scale (CCS) The scale, developed by (Weimann, 1977), covers the communication behaviour of individuals, their responses, empathy towards team members, listening skills, responses to others while communicating, and recognition of their needs at a given moment.
Perceived Supervisory Support Scale (PSSS). The scale, developed by (Rhoades & Eisenberger, 2002), has 8 items whereas the original scale had 36. The original scale was developed by Robert Eisenberger to measure self-perceived organizational support and was later modified to measure supervisory support. Each item was rated on a scale of 0 to 4 as follows: 0, strongly disagree; 1, disagree; 2, neutral; 3, agree; 4, strongly agree.
A pilot study was conducted on 36 respondents and Cronbach's alpha was used for assessing the reliability of each scale. The perceived supervisory scale was revised; the revised version had only four items to make the scale more reliable. The four items, each of which records one kind of response by the superior, were as follows: failing to notice a job well done, failing to appreciate extra efforts put in by the employee, ignoring a complaint, and showing little concern for an individual.
The reliability (Cronbach's alpha) of each of the three scales as compared to the reliability of the corresponding original scale and a similar comparison of the values of Cronbach's alpha between the pilot study (36 respondents) and the final sample (126 respondents) indicated that the difference between the two samples was not significant, therefore the data were considered valid for further analysis.
Validity: Face validity is the extent to which a test measures a concept that it seeks to measure. The results of the pilot study established that the face validity nearly approximates the scores of the standard scales. The internal validity was assessed from the analysis of secondary data, that is from the review of literature, and communication competence and perceived supervisory support were found to influence the effectiveness of virtual teams; in other words, the cause and effect relationship was confirmed. The external validity of the variables was established in that the effectiveness of virtual teams was generally found to be dependent on communication competence. All the respondents generally communicated with their team members virtually (that is, without direct, face-to-face contact). Thus, the communication method was the same for all. The validity of the conclusion signifies the degree to which the conclusion is reasonable, and the extent of the causal relationship established in the study makes it so. In-depth analysis revealed a direct relationship only with team collaboration, a dimension of team effectiveness, and not with team effectiveness as a whole.

FINDING AND DISCUSSION:

H1: Communication competency influences the effectiveness of virtual teams and its dimensions.
To understand the relationship between communication competency and virtual team effectiveness, a bivariate

correlation was executed. The value of Pearson's correlation, r, being −0.17 (N = 126), which is greater than 0.01, there was no significant correlation between overall team effectiveness and communication competency (Table 1).

Table 1

Correlation of the Independent and Dependent variables

		Team Effectiveness	Communication Competence	Perceived Supervisory Support
Team Effectiveness	Pearson Correlation	1		
	Sig. (2-tailed)			
Communication Competence	Pearson Correlation	-.170	1	
	Sig. (2-tailed)	.057		
Perceived Supervisory Support	Pearson Correlation	-.173	.183*	1
	Sig. (2-tailed)	.052	.040	

Note: *. Correlation is significant at the 0.05 level (2-tailed).

Source: Primary Data

The lack of a significant relationship between the overall effectiveness of a virtual team and communication competency (H1) contradicts the review of literature, which reports a strong relationship between communication behaviour and the effectiveness of virtual teams, established both empirically and theoretically (Robinson, 2014); (Yu, 2015). On further analysis, team collaboration was found to be significantly correlated to communication competency (r = −0.33, N = 126, p = 0.00)—team collaboration was thus negatively correlated to communication competency, and the relationship was significant at 0.01 and 0.05.

The null hypothesis could therefore be rejected: team effectiveness and communication competency *were* correlated, and team collaboration was found to influence the effectiveness of virtual teams.

This conceptual study defines collaboration as working together for a common goal. The antecedents of collaboration include relationship development, shared understanding, and trust (Peters & Manz, 2007). Research shows that collaboration can be achieved by sharing knowledge, which improves team performance (Gibson & Cohen, 2003). Although virtual collaboration is fraught with issues related to ability, global teams can be made more effective by proper collaboration. Collaboration needs trust and participation to be integrated, and trust arises from satisfaction, which is socio-emotional (Jarvenpaa & Leidner, 1999).

Collaboration and effective communication in virtual teams are understood as technological tools that contribute to team effectiveness (Berry, 2011). Research also suggests that trust built through effective communication improves the performance of a team (Ebrahim, Ahmed, & Taha, 2009); (Hossain & Wigand, 2004); (Jarvenpaa & Leidner, 1999); (Jarvenpaa, Knoll, & Leidner, 1998); (Kayworth & Leidner, 2000).The influence of communication in developing trust and team collaboration through trust clearly shows the connection between collaboration and communication competency, and the TEAM scale clearly shows the relation between team collaboration and team effectiveness (Pareek, 2002).

The next hypothesis (H2) proposed a relationship between perceived supervisory support and the effectiveness of virtual teams. Supervisory support is the concern for and support to a member expected of a supervisor as a contribution towards the general satisfaction and well-being of those employees being supervised. Just as employees form global perceptions concerning their evaluation by their organization, they develop general views concerning the degree to which supervisors value their contributions and care for their well-being (Kottke & Sharafinski, 1988). When employees feel satisfied about their relationship with their supervisor, they contribute a great deal more to the organization. Results of a bivariate correlation (Table 1) indicate no relationship between perceived supervisory support and overall team effectiveness. Thus, H2 was rejected, which too contradicts earlier research: the review of literature indicated trust and support from the supervisor to be positively correlated to team performance (Ahmad, Farrukh, & Nazir, 2015). The expectation of supervisory support by members of virtual teams is clear from the literature, and such support is known to increase employee satisfaction and motivation to achieve targets (Baral & Bhargava, 2010). Thus, any of the dimensions of team effectiveness could be directly related to supervisory support.

The correlation coefficient between team collaboration (a dimension of team effectiveness) and supervisory

support was negative (r = −0.379, N = 126, *p* = 0.00) at 0.01 level of significance. Supervisory trust is a factor in team effectiveness and is developed through communication, openness, honesty, and sincerity on part of the supervisor. Research confirms that collaboration arises from trust between members of virtual teams and their supervisors (Badrinarayanan & Arnett, 2008); (Berry, 2011); (Shachaf & Hara, 2005). Thus, it can be safely concluded that major initiatives to increase communication competency and perceived supervisory support, especially in team collaboration, can have a significant positive influence on the effectiveness of virtual teams.

The last hypothesis (H3) tested whether communication competency and perceived supervisory support can together predict the degree of collaboration in virtual teams because the two were significantly and positively correlated (Table 2).

Table 2

Regression Table of communication competency, perceived Supervisory Support and Team Collaboration

Model	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	t	Sig.	
(Constant)	79.51	8.49		9.36	0.00	
Communication Competence	-0.23	0.07	-0.27	-3.33	0.00	
Perceived Supervisory Support	-1.30	0.31	-0.34	-4.21	0.00	

Notes. R^2=0.22, (p<0.05)

Source: Primary Data

The value of R^2, namely 0.22, explains the percentage of variance of team collaboration and shows the goodness of fit to be 78%. The significance of the test value of the two independent variables (communication competency, *p* = 0.00 and perceived supervisory support, *p* = 0.00) confirms that both of them significantly influence team collaboration, which is a dimension of team effectiveness.

Thus, the model allows team collaboration to be predicted reliably from communication competency and perceived supervisory support. It has already been proved that trust contributes to team collaboration directly and that team collaboration is a dimension of team effectiveness.

Swift trust in virtual teams was found to influence collaboration in virtual teams directly (Jarvenpaa & Leidner, 1999), and this trust was developed through proper communication and the attitude of the leaders (Shachaf & Hara, 2005).

IMPLICATIONS AND SUGGESTIONS:

Collaboration in a virtual team depends on the communication competency of its members and the supervisory support they receive. Such collaboration encompasses both offering help and requesting for help. The outcome of collaboration includes timely help, teamwork, sharing of experiences, improved communication, and resource sharing to solve problems and to establish and foster team spirit. This implies that trust among team members is essential to seeking timely help and can be built through communication competency of team members.

The effectiveness of virtual teams is based mainly on communication. Effective communication leads to trust and improved team performance (Jarvenpaa & Leidner, 1999); Meznevski & Chudoba, 2001). The key point in the functioning of virtual teams is distributed collaborative work. As we infer empirically the dependency of team collaboration on communication competency of the members of a virtual team, we conclude that communication competency is indirectly related to the team's functioning and effectiveness.

The level of satisfaction, cohesion, trust, coordination, and relationship building determine team performance, and members who were satisfied being members of a given virtual team used more communication channels after being trained in communication than those who were unsatisfied as team members (Kayworth & Leidner, 2000). General satisfaction as a dimension of perceived supervisory support contributes to better communication and team effectiveness. Perceived supervisory support leads to greater communication competency and satisfaction of individual team members. Recognition, appreciation, and an expression of pride from supervisors are of great value to individuals and promote satisfaction in team members. Members of virtual teams, when satisfied, tend to use many more channels of communication, which makes the team more

effective. Motivation underlies the concept of recognition and appreciation.

Communication competency affects team collaboration, and research has shown that collaboration is an attribute of team functioning (Yu, 2015), which, in turn, is the main dimension of team effectiveness (Yu, 2015) Therefore, communication competency is essential for building strong virtual teams. The focus should be on building trust, which is an antecedent of team collaboration. Communication competency could further be classified into sub-competencies to guarantee unhindered functioning of teams to make them more effective. Proper supervisory support in virtual teams can increase the level of trust and satisfaction in individual employees based on the attitude of their leaders, and choosing leaders carefully will benefit the team in the long run by ensuring greater support to team functioning and reducing the time team members spend in 'social loafing'.

CONCLUSION:

Our research shows that the communication competency of members of virtual teams is related to their effectiveness through team collaboration. Team collaboration, a dimension of team effectiveness, is related to both communication competency and perceived supervisory support. The influence of communication competency and perceived supervisory support on team collaboration confirms the dependency of team collaboration and team effectiveness on the two variables. Any increase in a team member's knowledge, skill, and the ability to respond on time to the team mates and in the team leader's ability to communicate can motivate the members of a virtual team and improve its performance. If this effort to increase knowledge, skill, and the ability to respond quickly is conveyed clearly to team members during goal setting, team effectiveness will not hold back virtual teams from success.

REFERENCES:

Ahmad, T., Farrukh, F., & Nazir, S. (2015). Capacity building boost employees performance. *Industrial and Commercial Training, 47*(2), 61–66. doi:10.1108/ICT-05-2014-0036

Badrinarayanan, V., & Arnett, D. B. (2008). Effective virtual new product development teams: an integrated framework. *Journal of Business & Industrial Marketing, 23*(4), 242–248. doi:10.1108/08858620810865816

Baral, R., & Bhargava, S. (2010). Work-family enrichment as a mediator between organizational interventions for work-life balance and job outcomes. *Journal of Managerial Psychology, 25*(3), 274–300.

Berry, G. R. (2011). Enhancing effectiveness on virtual teams: understanding why traditional team skills are insufficient. *Journal of Business Communication, 48*(2), 186–206. doi:10.1177/0021943610397270

Ebrahim, N. A., Ahmed, S., & Taha, Z. (2009). SMEs and virtual R&D teams: a motive channel for relationship between SMEs. *International Conference for Technical Postgraduates (TECHPOS), Kuala Lumpur, Malaysia*. doi:10.1109/TECHPOS.2009.5412112

Ellis, K., & Shockley-Zalabak, P. (2001). Trust in top management and immediate supervisor: the relationship to satisfaction, perceived organizational effectiveness, and information receiving. *Communication Quarterly, 49*(4), 382–398. doi:10.1080/01463370109385637

Gibson, C. B., & Cohen, S. G. (2003). *Virtual teams that work: creating conditions for virtual team effectiveness.* San Francisco: Jossey-Bass (John Wiley). Retrieved from http://www.communicationcache.com/uploads/1/0/8/8/10887248/virtual_teams_that_work_creating_co nditions_for_virtual_team_effectiveness.pdf

Hossain, L., & Wigand, R. T. (2004). ICT enabled virtual collaboration through trust. *Journal of Computer-Mediated Communication, 10*(1). doi:10.1111/j.1083-6101.2004.tb00233.x/full

Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organization Science, 10*(6), 791–815. doi:10.1111/j.1083-6101.1998.tb00080.x

Jarvenpaa, S., Knoll, K., & Leidner, D. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of Management Information Systems, 14*(4), 29–64. doi:10.1080/07421222.1998.11518185

Kanawattanachai, P., & Yoo, Y. (2002). Dynamic nature of trust in virtual teams. *The Journal of Strategic Information Systems, 11*(3), 187–213. Retrieved from https://pdfs.semanticscholar.org/d834/027810d1ffdb77a53f1e61e2aec940984707.pdf

Kayworth, T. R., & Leidner, D. (2002). Leadership effectiveness in global virtual teams. *Journal of Management Information Systems, 18*(3), 7–40.

Kayworth, T., & Leidner, D. (2000). The global virtual manager: a prescription for success. *European*

Management Journal, 18(2), 183–194. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.476.9399&rep=rep1&type=pdf

Kottke, J. L., & Sharafinski, C. E. (1988). Measuring perceived supervisory and organizational support. *Educational and psychological Measurement, 48*(4), 1075–1079. doi:10.1177/0013164488484024

Lin, C., Standing, C., & Liu, Y. C. (2008). A model to develop effective virtual teams. *Decision Support Systems, 45*(4), 1031–1045.

Maznevski, M. L., & Chudoba, K. M. (2000). Bridging space over time: global virtual team dynamics and effectiveness. *Organization Science, 11*(5), 473–492. doi:10.1287/orsc.11.5.473.15200

Pareek, U. (2002). *Training instruments in HRD and OD (2nd ed.)*. New Delhi: McGraw Hill.

Peters, L. M., & Manz, C. C. (2007). Identifying antecedents of virtual team collaboration. *Team Performance Management: an International Journal, 13*(3/4), 117–129. doi:10.1108/13527590710759865

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: a review of literature. *Journal of Applied Psychology, 87*(4), 698–714. doi:10.1037//0021-9010.87.4.698

Robinson, R. (2014). *Communicating with technology*. Retrieved from http://bookboon.com/en/communicating-with-technology-ebook#download

RW3 CultureWizard. (2016). *Trends in global virtual teams: virtual teams survey report – 2016*. New York: RW3 CultureWizard.

Shachaf, P., & Hara, N. (2005). Team effectiveness in virtual environments: an ecological approach. In S. P. (Eds.), *Teaching and learning with virtual teams* (pp. 83–108). Hershey, Pennsylvania: Information Science Publishing. Retrieved from http://hdl.handle.net/10150/105896

Spitzberg, B. H., & Cupach, W. R. (1984). *Interpersonal communication competence*. Beverley Hills, California: Sage.

Tan, B., Wei, K., Huang, W., & Ng, G. (2000). A dialogue technique to enhance electronic communication in virtual teams. *IEEE Transactions on Professional Communication, 43*(2), 153–165.

Weimann, J. M. (1977). Communication competency scale explication and test of a model of communicative competence. *Human Communication Research, 3*(3), 195–213. doi:10.1111/j.1468-2958.1977.tb00518.x

Yu, T. (2015). *Communication in global entrepreneurial virtual teams: a systematic literature review*. Department of Management Studies: Aalto University. Retrieved from https://aaltodoc.aalto.fi/handle/123456789/18300