

Engaging Virtual Teams: Do Leadership & Trust Matter?

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Based on the theoretical framework on transformational leadership style, this study examined the impact of leadership on engaging employees working in virtual teams. It has also investigated trust as a mediator between leadership and engagement. The sample involved 305 participants working in a virtual team across eight industrial sectors. Data was collected using a questionnaire and was analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results confirmed that leaderships idealized influence impacts employee engagement in virtual teams; however, leadership's inspirational motivation does not directly impact employee engagement. The results also confirmed that trust partially mediates the relationship between leadership influence and employee engagement and fully mediates relationship between leadership motivation and employee engagement.

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Introduction

The workplace of 21st century is quite different from that it was a few years ago. The long-held beliefs about work patterns of how, where and when work gets done are challenged in the new organizational structure. Leaders today have to manage their teams from a distance. The workplace has transformed from cubicles to open office spaces and now employees logging in to company's network from home or different office locations to work together on the same project. The transition of an office as a physical location to employees working from anywhere and anytime has enabled organizations to hire the best talent regardless of their location. This has helped organizations to enhance their efficiencies to work across time zones and thus be productive round the clock. In today's global market, technology advances have made it easier to organize and manage dispersed groups of people, however, engaging the virtual team and leading them effectively is a challenge.

Employees' working in virtual teams is not a trend but an evolution in the workplace. This transformation in the workplace is generally cross-functional, cross-cultural and cross-generational. It has dramatically altered the way most organizations function. With the emergence of virtual teams, a paradigm shift at workplace has occurred.

1. From work as a physical place to, "doesn't matter from where you work"
2. From work between 9 am to 6 pm to, it happens when it's assigned and due
3. From employees to be monitored, to employees being responsible for results
4. From increase in productivity due to presence in office to, "telecommuters are productive too"
5. From micromanagement to employees being high on accountability and ownership
6. From focus on process to focus on outcomes and results
7. From work life balance to work life integration

With these changes at the workplace, it is imperative for leaders to understand what works well while engaging virtual teams. Historical definition of leadership is the ability to influence a group towards the achievement of goals, (Robbins, 2013). Various contemporary studies on leadership styles ranging from Hersey and Blanchard's situational theory to charismatic, transactional and transfor-

mational leadership style researcher rigorously reviewed the literature in the context of geographically dispersed team and chose to focus on Transformational Leadership (influence and motivation) and trust. A vast body of research has considered these variables as interplay between leadership and engagement, performance, success under the backdrop of virtual settings. (Joshi, Lazarova, & Liao, 2009; Dirks & Ferrin, 2002). This paper aims at examining the role of leadership influence and motivation in engaging the employees in virtual teams. It is proposed to assess the impact of idealized influence and inspirational motivation, a sub factor of transformational leadership with a mediating role of trust between the team members on employee engagement.

Purpose of This Study

It is a known fact through various researches, awards and best practices discussed, that an engaged employee in an organization significantly increases the chances of organizational success. The leader has to play different roles to engage the employees in virtual teams. In the absence of face to face interaction, the role of influencing, motivating and fostering an environment of trust dramatically changes as against in the collocated teams. Given the significance of these variables, this study aims to offer a comprehensive view of employee en-

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agement in virtual scenario. The research concern is to understand the relationship between leader's influence, motivation and trust on engagement of virtual teams. Following research questions were raised:

1. Does leadership influence impact employee engagement?
2. Does leadership motivation impact employee engagement?
3. Does trust enhance the employee engagement?

Understanding Virtual Teams

According to Day, Zaccaro & Halpin (2004), the working definition of a team is: "a set of two or more people who interact dynamically, interdependently, and adaptively toward a common and valued goal, in specific roles or functions." Duarte & Synder (1999) defined virtual teams as "a team that operates without the physical limitations of distance, time and organizational boundaries." Cascio (2000) mentioned virtual teams as all about employees working using technology from different locations possessing unique skill sets. In the view of Leidner & Jarvenpaa (1999) a virtual team is, "temporary, culturally diverse, geographically dispersed and uses technology to communicate". For the purpose of this research, virtual team is being construed as a group of people who work interdependently using technology to achieve organizational goals across space, time and organization boundaries D'Souza & Colarelli (2010)

Understanding Employee engagement:

According to Kahn (1990) engaged people harness their work roles and during work performance, they express themselves physically, cognitively, and emotionally. Maslach & Leiter (2008) in their study on burnout, conceptualized engagement as the opposite of burnout. According to them, if burnout is feeling exhausted, cynical and ineffective, engagement is feeling energetic, involved and effective. They also suggest building engagement through promoting sustainable workloads, empowerment, effective recognition and rewards, providing just and fair treatment, and ensuring an overlap of personal and organization values. Schaufeli, Martinez, Pinto, Salanova, and Bakker (2002) defined work engagement as a positive, fulfilling, work-related state of mind that is expressed in the form of vigor, dedication and absorption. Engagement is also seen as a combination of job satisfaction and organizational commitment (Schmidt, Harter & Hayes, 2004). Vance (2008) cited Towers Perrin's definition of employee engagement as the employee's willingness and ability to go that extra mile to contribute to an organization success. A range of definitions have emerged around the concept of employee engagement. However, the researchers could not find any specific literature on engagement in virtual teams. Based on the common themes that emerged from literature review and researchers' focused group discussions with various organizations, the operational definition of employee engagement is as: "an employee who has

role clarity, understands business context, works cohesively with the team members and feels rewarded and valued.”

Leadership in Virtual Teams

The relationship between leadership and employee engagement has received considerable scholarly attention. Working in a virtual team has been exponentially growing over the years. According to SHRM's Employee Benefit Report (2019), 69% of the companies offer their employees to work virtually. Leading individuals and teams have always been a challenge. Srivastava & Sinha (2009), in their study of effective teams, found that team effectiveness depends upon the leaders' ability to assign specific duties to individual team members, and reward them for their efforts. In virtual set up this challenge is multi-fold as compared to traditional face to face settings Bell & Kozlowski (2002). As per Yukl & Taber (2002), virtual leadership is a combination of increasing influence and commitment not only for routine work but also going beyond the work role. It is found that, leadership and managerial effectiveness also depends upon facilitative climate of work unit, motivation management, participative structured organization norms and values, and technologically conducive work conditions (Srivastava & Sinha, 2009). Majority of the leaders agree that today virtual leadership is a necessary skill for leaders in their organizations. The research conducted by Centre for Creative Leadership (2007) reflects that virtual leadership requires a different set of skills from face-to-face leadership. Researchers

considered various leadership theories and found Transformational Leadership appropriate for virtual teams. The crux of transformational leadership style is explained in 5 components:

- Idealized Influence – emphasizes a leader to be a role model
- Inspirational Motivation – An ability to motivate and inspire.

Idealized Influence and Inspirational motivation represent the charisma of the leader.

- Individualized Consideration – leaders genuinely reach out to understand individuals concerns and feelings
- Intellectual Stimulation - the leader challenges followers to be innovative and creative for higher levels of performance

Study of transformational leadership and its relationship to trust and behavioral integrity, (Childres, 2009), is studied for collocated teams. Study by Kumar & Israel, (2012) on relationship between authentic leadership and worker engagement for collocated teams inferred indirect relation between the two with full mediation of psychological ownership. Figueroa (2011) undertook the study of managers' leadership style and employee engagement and confirmed direct positive relationship between transformational leadership and employee engagement. From the literature it is evident that studying the link between leadership and employee engagement could be beneficial.

In the context of virtual teams, studies show strong association between transformational leadership and perceived leadership performance Neufeld & Fang (2010), inspirational leadership as a significant predictor of individuals' trust in team members and commitment (Joshi, Lazarova & Liao, 2009). Clouner, (2018) emphasized the significance of transformational leadership for virtual team engagement. Clouner's work on virtual team also cited Zander and colleagues' (2013) emphasis on transformational leaders' idealized influence and inspirational motivation for "building cohesion with the team around its goal and overcoming the challenge of motivating virtual teams". What differentiates the collocated and virtual teams is the leader's charisma given the absence of physical proximity. Idealized Influence and Inspirational Motivation constituted the leaders charisma and are studied further for this research (Craig, 2017). Inspirational Motivation essentially means leader's ability to inspire confidence, increase motivation and have a genuine sense of purpose instilled in the followers (Bass, 1985). This relates with our definition of employee engagement with respect to understanding business context and having role clarity to achieve the goals that have been laid out. Idealized Influence particularly deals with leaders being role models and the ones who walk the talk. Idealized Influence of a leader

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helps in building trust within the team members. Hence, we would further study role of trust in virtual teams. Based on the literature review, the researchers seek to assess the impact of leadership's Idealized Influence and leaderships Inspirational Motivation on employee engagement.

H1: Leadership influence impacts employee engagement in virtual teams

H2: Leadership motivation impacts employee engagement in virtual teams

Role of Trust in Virtual Teams

Trust is important for working in teams. Virtual teams, where social exchanges are for very short duration, building trust is an important aspect of leading the team. According to Robbins (2005) "Online leaders confront unique challenges, the greatest of which appears to be developing and maintaining trust." Thus, if leadership is important for inspiring and motivating geographically dispersed employees, the role of a leader becomes increasingly important in fostering an environment of trust within the team. Trust is one of the major challenges in managing a virtual team (Harvard Business Review, 2019). "When employees trust their managers and believe they're working toward a shared vision, collaboration and engagement happen naturally. But it's hard won in an environment where face-to-face interaction is a rarity" (Ibid). Dirks & Ferrin (2002), in their meta-analytic study mentioned trust as a primary attribute associated with leadership and group performance. McAllister (1995),

defines interpersonal trust as an extent to which a person is confident about its team members and is willing to act on the basis of their words, actions, and decisions. Trust is a crucial factor for effective collaboration on any team. Can trust be built in virtual teams? Jarvenpaa, Knoll & Leidner (1998) suggested when individuals in virtual teams don't have enough time to build a relationship, trust building happens slowly. Although in virtual teams, members assume that others are trustworthy and with this premise team members begin working as if trust were already in place. This is called as Swift Trust (Meyerson, 1996) Jarvenpaa & Leidner, 1999). Various studies are unanimous in the requirement that the team members must have trust in one another to be successful in virtual teams (Andres, 2002; Bell & Kozlowski, 2002); (Holton, 2001). Studies have demonstrated that 'trust' mediates in employee related outcomes like perceived voice behavior and organizational commitment (Farndale, 2011), employee justice perceptions and job satisfaction, turnover intention and organizational commitment (Aryee, 2002; Klendauer, 2009), authentic leadership and employee engagement (Wang, 2013). Given the importance of trust in team effectiveness, the present research examines the role of trust in employee engagement in virtual teams.

Studies have demonstrated that 'trust' mediates in employee related outcomes like perceived voice behavior and organizational commitment.

It specifically looks at trust between team members as they work together and interact often to achieve the common goal. The research suggests assessing the mediating role of trust between leadership and engagement on a premise that leadership influence and motivation instills trust between team members.

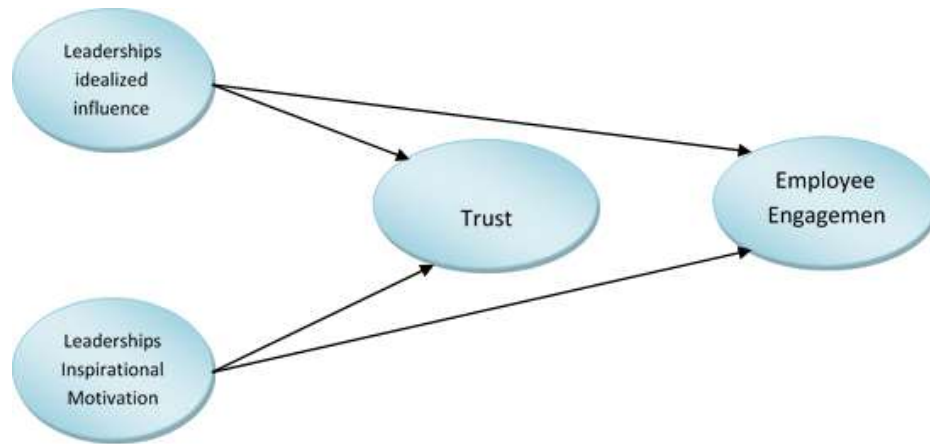
H3: Trust mediates relationship between leadership influence and employee engagement

H4: Trust mediates relationship between leadership motivation and employee engagement

Research Model

The proposed model is presented in fig. 1. The sub-factor of transformational leadership – influence and motivation are exogenous variables and employee engagement is an endogenous variable. Trust is a mediating variable to examine the impact of relationship between leadership influence and motivation on employee engagement. The control variables are: the team size should be of minimum four people, of which at least two people should be located virtually. Employees should have spent a minimum of 6 months in the virtual team. The individual control variables are age, work experience and gender.

This research was an exploratory, correlational study. A cross-sectional data was gathered using quantitative methodology. Purposive non-probability sampling technique was used.

Fig. 1 Research Model

Data Collection

Data was collected using an online survey. Participants were approached personally, through professional network and also through social media tools. The participants were identified on their status of being a member of a virtual team. The survey questionnaire also entailed the purpose of study and the pre-requisite of working in virtual teams. The total response items were 32 in number, with Likert type response category, from 1 to 5 where 1 = strongly disagree and 5

strongly agree. We received 327 responses, out of which 305 were used for analysis after cleansing of data. The respondents belonged to eight different industries viz. Information Technology, Manufacturing, Pharmaceutical, Banking, Consulting, E-Commerce, Oil and Gas and FMCG, with age group ranging from 22 to 64 years. The size of virtual team comprised minimum four members, working together for more than six months. A quick snapshot of the demographics of the respondents is shown in Table 1.

Table1 Demographics of Respondents

Demographic	Category	Number	Percentage
Gender	Male	229	75.08
	Female	76	24.92
Total Work Experience	Below 5 years	36	11.80
	6-10 years	91	29.84
	11-15 years	90	29.51
	16-20 years	53	17.38
	Above 20 years	35	11.48
Education	Graduate	100	32.79
	Post Graduate	205	67.21

Employee Engagement

To measure Employee Engagement as per the construct, the instrument was adapted from Baver (2002) scale of 'role clarity' and integrated with Brown and Leigh's (1996) sub scale of psychological climate. Total 12 questions comprised this scale. Example of sample items: 1) I am clear on what my job responsibilities are, 2) My Manager appreciates the way I do my job. The Cronbach alpha and composite reliability for Employee Engagement is 0.894 and 0.913 respectively. AVE is 0.511

Leadership

Multifactor Leadership Questionnaire developed by Avolio (1995) was adapted for the purpose of this research. Two attributes of this scale – Inspirational Motivation and Idealized Influence were used as a leadership instrument for motivation and influence respectively. A total of 12 questions comprised this scale. Sample items are: 1) My Manager instills pride in me for being associated with him/her, and 2) My Manager specifies the importance of having a strong sense of purpose. The Cronbach alpha for influence and motivation is 0.909 and 0.879 respectively whereas the composite reliability is 0.928 and 0.917. AVE for leadership influence and motivation is 0.649 and 0.735 respectively.

Trust

To measure trust, Kanawattanachai & Yoo (2002) scale of trust was used in the survey questionnaire. It comprises

eight questions focusing on trust between team members. Sample items are: 1) If I shared my problems with my team, I know they would respond constructively and caringly, and 2) I can communicate freely to my team about difficulties I am having at work and know that my team will want to listen/pay attention. The Cronbach Alpha and composite reliability for trust is 0.845 and 0.883 respectively. The AVE is 0.520

Data Analysis

Before proceeding with any other analysis, the data was examined for sample size, distribution, missing data and common methods bias to ensure that the statistical and theoretical assumptions were supported (Hair & Ringle, 2015). Given the nature of research model, it is imperative to use second generation techniques instead of first generation ones such as logistic or multiple regression method. In the present study, as the data was not normally distributed, PLS-SEM was preferred over CB-SEM (Hair & Ringle, 2015). This research study used Smart PLS 3 software.

Empirical Results

Measurement model was evaluated for Cronbach Alpha, Composite Reliability (> 0.70), Indicator Reliability, Average Variance Extracted (> 0.50) and Discriminant Validity (Mulik, Srivastava & Yajnik, 2020). To improve the AVE of trust, one item was dropped and all other items were retained even though outer loadings for a few indicators were below 0.7 (Hair & Ringle,

2015). VIF collinearity value of one Leadership item was above 3.3, that indicator was dropped. Hence, out of 32 items, 2 were dropped and 30 items were retained. Further, discriminant validity was examined through cross loadings, Fornell Larcker Criterion and

HTMT (Hetrotrait – Monotrait ratio) (Hair & Ringle, 2015). A bootstrap confidence interval for HTMT did not have value 1 for all combinations of constructs, hence, discriminant validity was established. The results of measurement model are summarized in Table 2.

Table 2 Results of Measurement Model

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Discriminant Validity (HTMT Confidence does not include 1)
Employee Engagement	0.894	0.913	0.511	Yes
Leadership Influence	0.909	0.928	0.649	Yes
Leadership Motivation	0.879	0.917	0.735	Yes
Trust	0.845	0.883	0.520	Yes

The structural model was evaluated for collinearity ($VIF < 5$ and tolerance value > 0.2), Coefficient of determination (R^2), Size and significance of path coefficients and Model Fitment. The results of collinearity among the predictor

constructs indicated no issues in the structural model. All the outer VIF values were below 3. Table 3 shows a summary of inner VIF values. It also indicates the data being free of common method bias. (Kock, 2015)

Table 3 Inner VIF Values

Constructs	Employee Engagement	Leadership Influence	Leadership Motivation	Trust
Employee Engagement				
Leadership Influence	2.770			2.702
Leadership Motivation	2.823			2.702
Trust	1.333			

After running the PLS algorithm, the resultant research model with R^2 and t values is shown in fig. 2.

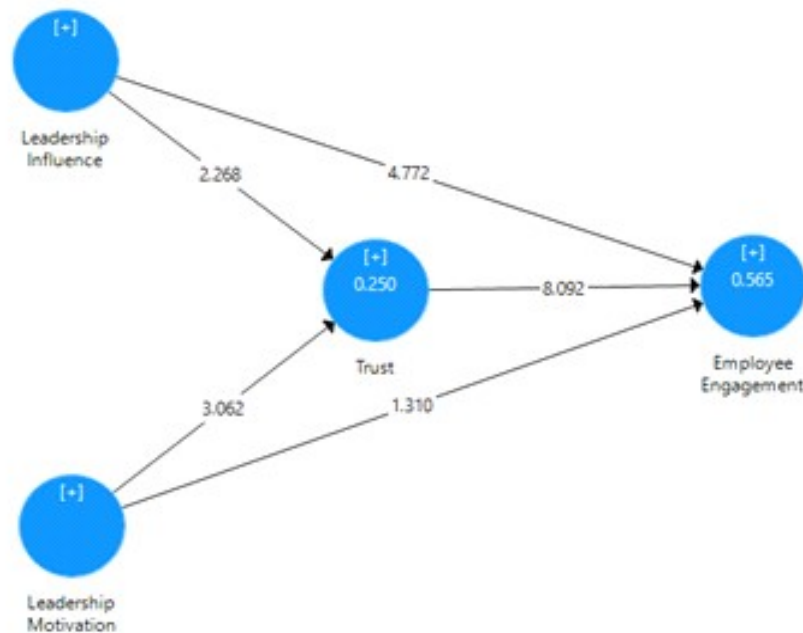
Coefficient of Determination (R^2 value)

Structural model evaluation was done by examining Coefficient of Determination (R^2 value). The values of R^2 for the endogenous construct are:

1. Employee Engagement: 0.565 (moderate)
2. Trust: 0.250 (weak)

R^2 values of 0.75, 0.50 or 0.25 for endogenous latent variable are respectively described as substantial, moderate and weak (Hair, Hult, Ringle & Sarstedt, 2013).

Fig. 2 Research Model



The bootstrapping procedure with 5000 sub-samples and no sign change was run and the results for path coefficient for direct, total and indirect effects are summarized in Table 4, Table 5 and Table 6 respectively.

Table 4 Path Coefficient

	Direct Effect	T Statistics (O/STDEV)	p Value	95% Confidence Intervals	Significance (p < 0.05)
Leadership Influence -> Employee Engagement	0.350	4.772	0.000	[0.216, 0.497]	Yes
Leadership Influence -> Trust	0.226	2.268	0.023	[0.033, 0.425]	Yes
Leadership Motivation -> Employee Engagement	0.100	1.310	0.190	[-0.055, 0.240]	No
Leadership Motivation -> Trust	0.301	3.062	0.002	[0.101, 0.489]	Yes
Trust -> Employee Engagement	0.438	8.092	0.000	[0.331, 0.544]	Yes

To determine the size of the indirect effect in relation to the total effect, Variance Accounted For (VAF) is calculated. $VAF = \text{direct effect} / \text{total effect} = 0.350$

Table 5 Total Effects

	Total Effect	t Values	p Values	95% Confidence Intervals	Significance (p < 0.05)
Leadership Influence -> Employee Engagement	0.449	5.564	0.000	[0.291, 0.611]	Yes
Leadership Influence -> Trust	0.226	2.268	0.023	[0.033, 0.425]	Yes
Leadership Motivation -> Employee Engagement	0.232	2.690	0.007	[0.063, 0.396]	Yes
Leadership Motivation -> Trust	0.301	3.062	0.002	[0.101, 0.489]	Yes
Trust -> Employee Engagement	0.438	8.092	0.000	[0.331, 0.544]	Yes

Table 6 Indirect Effects

	Indirect Effect	T Statistics (O/STDEV)	p Value	95% Confidence Intervals	Significance (p < 0.05)
Leadership Influence -> Employee Engagement	0.099	2.326	0.020	[0.015, 0.185]	Yes
Leadership Motivation -> Employee Engagement	0.132	2.602	0.009	[0.041, 0.242]	Yes

/ 0.449 = 0.7795 which essentially means 77.95 % effect of influence on employee engagement was explained via trust mediator. Similar calculation for leadership motivation yields 43.10 % on employee engagement via trust mediator. Since the VAF is larger than 20 per cent but smaller than 80 per cent, it is characterized as partial mediation.

Model Fit

SRMR value of research model is 0.72 suggesting a good fit. (Rigdon, Sarstedt, Ringle, Henseler & Hair, 2014).

Discussion & Conclusion

This research study examined the impact of leadership influence and motivation on employee engagement and the

mediating role of trust between leadership influence and motivation on employee engagement. The data analysis found a significant relationship between leadership influence and employee engagement with a path coefficient of 0.35 and p value of 0.000. It is in line with the literature which has reported an association between transformational leadership and employee engagement by Figueroa (2011). The first hypothesis is accepted that leadership influence impacts employee engagement. Factors of transformational leadership explain that leaders

The data analysis found a significant relationship between leadership influence and employee engagement.

influence employees, provide sense of purpose, pride, respect and trust. They inspire, motivate and communicate vision. Hence, leaders' positive influence seems to be an important attribute for virtual team's engagement. The second hypothesis proposing a direct relationship between leadership motivation and employee engagement turned out to be weak with path coefficient of 0.100 and p value of 0.190 resulting in rejection of the hypothesis. This finding is different from the majority of the past researches. Prior research studies have shown positive linkage between motivation and performance (Hackman & Oldham, 1980; Kirkman & Rosen, 1999). Supportive and Inclusive leadership behavior is highly related to higher levels of motivation in virtual teams (Allen, 2005; Moore, 2008). (Jenster, 2010), studied leadership impact on motivation, cohesiveness and effectiveness in virtual teams and concluded that motivation is not positively related to team effectiveness in virtual settings. A finding from our present study corroborates with Jenster's (2010) findings, yet one needs to investigate what could be the other possible factors impacting this relationship. When tested for mediation effect of trust, there exists a significant relationship between inspirational motivation and employee engagement with a p value of 0.07. Trust fully mediates the relationship between leadership motivation and employee engagement.

Trust fully mediates the relationship between leadership motivation and employee engagement.

The study also found significant relationship between trust and employee engagement with a path coefficient of 0.438 and p value of 0.00. The value of path coefficients helps us in deriving the relative importance of the exogenous driver constructs. Trust is most important followed by leaderships Idealized Influence and then leaderships Inspirational Motivation in leading and engaging employees in virtual teams. The findings emphasize the importance of trust than the other two sub-factors of transformational leadership and also confirm the findings from previous researches cited in the literature earlier. Developing trust among team members is crucial for team's engagement at work. Zaccaro & Bader (2003) identifies trust as one of the most important factors for the success of virtual teams. The dependence on technology for the working of virtual teams is always very high and this requires the leaders to empower their team members and build trust for the emergence of various positive outcomes (Srivastava & Vyas, 2015). It is understood that organization culture and transformational leadership has important bearing on employee attitudes and performance (Biswas, 2009) and this should be emphasized.

We can thus conclude that the proposed research model is largely accepted and it emphasizes leaders to make an effort in fostering a culture of trust in the virtual teams as trust works as glue in establishing and maintaining good relationship amongst team members to be positively engaged. The implication of the finding that leadership influence impacts employee engagement essentially says

leadership behavior is engaging when the leader is able to communicate and influence effectively which instils pride, respect, confidence, sense of purpose, sense of mission, moral and ethical decision making in the team members (Avolio, 1999). Along with these strong leadership convictions, leaders should foster trust. Without establishing trust among teams, motivation from leaders may not have a strong impact on team's engagement.

Applicability & Generalization

The study has made a theoretical contribution by identifying leadership influence and trust between team members as key determinants of employee engagement in virtual settings. It has re-confirmed the significance of trust among virtual team members. Transformational leadership is more impactful if team members display trust amongst themselves. This study could help organizations in training their managers/leaders for adapting their leadership style to influence virtual teams as well as create a culture of trust in such a manner that it is experienced by team working distantly. Organizations can also pay attention to the leadership skills of people while hiring managers. The findings of the study could be generalized with a caveat that the sampling in the study was purposive and was restricted to certain industry types

Limitations & Scope for Further Research

This study suffers from certain limitations. The sample studied does not

cover the cultural nuances that are part and parcel of virtual teams. Similarly, there could be several other variables that may affect leadership influence and motivation like frequency of interaction, size of the team, empowerment, etc. Studies require to pay attention to such factors. A large sample size, comprising other relevant industries could be used for further verification of the findings. In the current study, only two sub-factors of transformational leadership – Idealized Influence and Inspirational Motivation are used, future studies may include the full model (the other two sub-factors being Intellectual Stimulation and Individual Consideration) of transformational leadership. The data was skewed towards males, leaving out the scope of gender wise analysis, which might give some interesting findings. The response to the survey has been collected in a single shot, though the study did check in for common method bias, and it was found to be absent. It would be wise that, in future, data must be triangulated employing other methods, like seeking the team level responses, responses from other co-workers in the organizations, keeping a time separation while data collection on independent and dependent variable. Authors also reflect that with the current pandemic of Covid-19, working in virtual teams is not out of choice for most of the organizations. Such a situation may alter the impact of leadership influence, motivation and trust on employee engagement that needs to be studied differently. One might check if results may differ post COVID situation.

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