Ambassadorial Leader Behavior and its Relationship with Virtual Team Performance

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Abstract

We proposed a series of leader behaviors, termed Ambassadorial Leader Behaviors, to facilitate team performance and tested them against 42 virtual teams (VT) that included 266 individuals. The results show organizational citizenship behavior (OCB) mediated the collective set and two individual behaviors, shared leadership and advocacy thus contributing significantly to the explained variance of team performance. The results provide an indication of important behaviors when leading VTs and underscore the importance of considering situational context in future VT studies.

1. Introduction

The rise of virtual teams (VT) has lead to increased interest in leadership processes that emerge within these non-traditional group structures [53]. VT research suggests that conventional modes of leadership will not necessarily yield the same benefits in a virtual setting [44]. What elements of leadership are more effective in addressing the organizational constraints of VTs to ensure an environment that provides for communication and cooperation between VT members in addition to giving the team the operational tools to permit the dispersed members to function as a part of the organizational unit? Such behavior on the part of the leader may lead to a perception of organizational support (POS) by the individual members of the team, resulting in greater individual contribution to the organization’s goals. Effective leadership in VTs may also encourage participation by team members that supersedes the organizationally mandated role behavior in the form of organizational citizenship behaviors (OCB) that are conducive to effective organizational functioning.

The purpose of this paper is threefold: to (1) explore leader behaviors that address the specific demands unique to VTs; (2) demonstrate a greater propensity for POS and OCB where such leadership exists; and (3) show a positive relationship with team performance under these conditions. Leadership behaviors deemed relevant for VTs—internal boundary spanning, external boundary spanning, shared leadership, recognition, and advocacy—are referred to collectively as ambassadorial leader behavior and are described below.

2. Ambassadorial leader behavior

Ambassadorial leader behavior involves efforts by a leader of a VT to serve as a team ambassador by bridging relationships with key constituencies through internal boundary spanning (IBS), external boundary spanning (EBS), shared leadership, recognition, and advocacy. These five behaviors derive from theoretical foundations of leadership in conventional and VTs. At the outset, it is important to emphasize that we are not presenting a “new” model of leadership that may be prone to the criticism of “old wine in new bottles.” Instead, we reviewed research for behaviors that would be relevant specifically for team performance in virtual settings.

From a collective view, models that recognize that a distance exists between the leader and the follower present the greatest potential application for VTs as they consider both the strategic and tactical aspects of leadership and consequently provide the most significant insight into the unique challenges of VTs. We used a recently advanced model [53] that identifies triggers for leaders to intervene in VT technology adaptation as a way to confirm the behaviors we deemed relevant for leadership in VTs. The following section outlines the five behaviors that reflect ambassadorial leadership in VTs.

2.1. Internal boundary spanning (IBS)

Unlike traditional teams where boundaries exist between the team and external entities, VTs are faced also with the existence of internal boundaries. IBS
addresses physical, psychological barriers that serve as the focal point for exchanges between VT teammates. Boundary spanning has been traditionally relegated to interaction with the environment external to the team. IBS supports an exchange between various members of the team, thereby bridging cultural, socio-economic, geographic, functional, or other differences between members.

The separation that exists within the VT is a source of strength while simultaneously presenting one of its greatest challenges. In the absence of previously existing ties, it is natural that team members drift towards more familiar parties within the scope of their team. Such drifting will flow along the natural faultlines present within the group such as functional skills, geographica l or temporal location, and cultural conditions [30]. Two elements affect relationships between the VT leader (VTL) and members collectively and individually. Ties that exist between team members are unique and arbitrary and may be non-existent in many cases. The sole readily identified tie is the tie between the members and the leader, which rests largely on positional authority.

Team faultlines relieve some stress that occurs in unfamiliar situations, providing members with an alliance that feeds into their social identity and feelings of self-worth and self-efficacy. Faultlines, nevertheless, must be recognized as a real barrier. On the positive side, this barrier protects and nurtures members enclosed within its scope. The negative aspect is that faultlines may inhibit communication between parties not wholly contained within its borders (since strong ties are developed within the subgroup yet few if any beyond it).

In order to promote a shared mental model (“a socially constructed understanding of the world derived from social exchanges and interactions among multiple individuals in a group or organization”) [31, p. 552] among the team, the VTL must first recognize that these boundaries exist and take steps to promote acceptance between subgroups for trusting relationships to form. Structurally, IBS between subgroups can reduce equivocality that exists because of the multiple perspectives. The VTL acts as a broker who provides for the development of the shared mental model by encouraging active exchange between subgroups and the rest of the team and promoting the emergence of other brokers within the VT [3].

2.2. External boundary spanning (EBS)

Externally, boundary spanning serves many purposes. Clearly EBS is an essential team function [1, 2] that encompasses information exchange, liaisons, monitoring the external environment, and securing resources. Simply put, EBS allows members to escape limits imposed in their own network by introducing new concepts from the environment. Further, EBS facilitates external monitoring. Finally, the role of gatekeeper/broker to external others is more central and enhances cohesion of the VT [29]. Some have advocated that team effectiveness might best be supported by both an external and internal focus [52], but there has yet to be substantial work in either traditional teams or VTs to determine whether a dual approach contributes to effectiveness.

VTLs help by exploiting commonalities that members have with others outside the team; functional skills, cultural background, organizational membership, and prior relationships. This requires another kind of skill—sensitivity to and understanding of the cultural and social distinctions that exist within and outside the team. Knowledge is one resource that deserves special attention because of its role in EBS. As the VT advances towards its goal, additional knowledge may be needed (much of which is tacit rather than explicit, [17]). The VTL, in order to expand the information sources of a team, will often charge members most qualified and positioned to establish a link to an external source. They may be placed in the position of integrators with a charter related to a specific assignment in EBS [34]. More successful relationships will go beyond the simple exchange of information such that the corresponding party may anticipate a need based on prior exchanges. Resulting information may result in a new line of investigation towards meeting the team goals.

As with IBS, the VTL must promote EBS as an activity to be pursued by multiple members of the VT. Consider how each of the subgroups is exposed to multiple external parties. In some cases, those external parties are unique to a particular subgroup. As an example, subgroups that form around a functional attribute will have exposure to external entities that specialize and/or service that particular function. In order to gain the greatest advantage, the VTL must encourage members of subgroups to develop ties within their extended external environment to then support the efforts of the subgroup and ultimately team goals.

2.3. Shared leadership

Shared leadership is “a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both” [40, p. 1]. A prominent distinction between shared leadership and traditional forms of leadership
is that the influence processes involved may include peer or lateral influence in addition to upward and downward hierarchical influence processes.

We expect that shared leadership in the VT environment will naturally emerge in some situations, particularly those where sub-groups find themselves physically, socially, or psychologically distant from the leader. As scholars have suggested that the emergence of shared leadership may be the result of peers influencing peers or the functional demands of the situation, there is a possibility that shared leadership will be inhibited [8]. The social system that exists within a sub-unit may also restrict the emergence of shared leadership. The VTL must promote shared leadership in these situations to encourage more exchange between the team members and allow peer-to-peer influence.

2.4. Recognition

Recognition is a large contributor to an individual’s level of motivation and has also received substantial attention in the leadership literature. Note that we are not defining recognition here in terms of the broader notion of contingent reward as a form of transactional leader behavior [5]. Contingent rewards involve specifying tasks and the use of incentives and contingent rewards to enhance motivation. Instead, we draw from Goffman [24] with the role that recognition plays in the relationship between actors as a matter of face. Face theory addresses the respect that is accorded an individual and whether that individual is held in esteem and good standing within the social unit [9, 24]. A consequence of this recognition is that the individual’s self image is positively reinforced [24].

Recognition may also increase an individual’s status in the organization and expectations for future rewards [55]. It may serve as a precursor to POS when the recognition is conveyed to top management [11, 16]. The individual’s self-efficacy is reinforced and consequently so is commitment to the team’s goals [51], which is then likely to produce a greater level of effort on behalf of the team [11, 55]. Further, recognition may increase the individual’s sense of team identity [25], also supporting commitment to the team’s goals [13, 14, 50]. One final consequence of recognition that builds on team commitment and identity is collaboration. As team members are recognized, they are more prone to share their knowledge with others [27, 46].

If we consider these factors in light of the VT, it seems clear that behaviors initiated by the VTL that develop recognition should be associated with increased performance. Behaviors that have been demonstrated to improve motivation are likely to sustain greater levels of performance [26]. The other driving factor is the development of interdependent and collaborative efforts as a consequence of recognition. Within the VT, these processes will result in greater IBS that in turn contributes to the cohesion and shared mental models crucial to the team’s overall performance [2, 46]. Consequently, the VTL’s effort to promote recognition will contribute to the team’s overall performance at both the individual level and the collective level.

2.5. Advocacy

Advocacy extends beyond exchanges that occur during IBS and EBS and includes behaviors such as buffering, impression management, and the promotion of VT members [2]. They are concerned with recognizing the value of each part of the collective team: individuals, sub-groups, and the team itself [16]. Buffering creates a barrier between the VT and bureaucratic constraints imposed by the external environment [47]. Impression management traditionally refers to efforts by an individual directed toward an audience to foster and protect a desired image [7, 32]. As it relates to advocacy, it extends the traditional behaviors to present an image of others, singularly and collectively, to third parties. The third component is promotion of team members as a form of recognition directed towards third parties with communication of positive and persuasive information about others [23]. Promotion serves to demonstrate the achievement of the VT’s vision and can be addressed to outside parties to enhance the image and also to secure future benefits.

The VTL facilitates IBS by celebrating and leveraging diversity of multiple sub-groups by reinforcing their value and encouraging further exchanges. In exercising EBS, advocacy is evident on multiple levels. Boundary spanning activities should include promoting the value of the team to secure commitment and resources that highlight current and future value as a result of the VT’s performance. Advocacy involves leveraging perceived similarities of team members with those in other units to help future placement and development of team members once the project is completed. Advocacy behaviors also extend to those assuming shared leadership who are encouraged to recognize and promote the contribution of team members in their subgroup.

3. Team behaviors

3.1. Organizational citizenship behavior

OCB supports social and psychological
environments where task performance takes place [38]. It has gained attention because of its positive relationship with task performance (at both individual and team levels), productivity, and efficiency [37, 43]. Organ [38] proposed five factors of OCB: altruism, courtesy, conscientiousness, sportsmanship, and civic virtue. Altruism is the willingness of an individual to assist another. Courtesy includes behaviors that moderate or alleviate problems for others. Conscientiousness involves efforts that surpass respective role requirements. Sportsmanship overlooks minor disturbances and shortcomings of others. Civic virtue speaks to one’s involvement within the political life of the firm. Managers have had difficulty distinguishing between the dimensions in Organ’s model, and helping behaviors (altruism, courtesy, and some of the less-referenced behaviors such as cheerleading and peacekeeping) are suggested to form a second-order construct [41]. Gains in performance are related to efficient use of limited resources and enhanced productivity [33, 38].

3.2. Perceived organizational support

POS is a perception of the value the organization places on one’s efforts and concern about their well-being [21,45]. When the social exchange of an employee’s efforts on behalf of the organization and their subsequent acknowledgement in the form of reward, recognition, and approval are perceived as fair, genuine, and resulting from the organization’s voluntary actions, the employee will likely have a positive POS [45]. Recognition of their value provides the employee with a sense of belonging, strengthens their performance-reward expectancies, and satisfies the employee’s needs for praise and approval [45]. If the employee does not perceive the acknowledgement as fair, she will seek to adjust the relationship accordingly. Effectiveness gains associated with POS stem from a number of factors, including: (1) results in employee commitment to the organization; (2) serves to support a shared identity with the organization; and (3) extends over time and provides a future value based on the employee’s anticipation of future rewards [45].

4. Hypotheses

4.1. IBS

IBS encourages and strengthens collectivism, an antecedent of OCB [36]. A supportive VTL promotes further development of OCB [39] and can facilitate the interdependent activities required for VT performance [12]. As teams, by their nature, are interdependent, there is an exchange of information through IBS that bridges the internal network, and stimulates more centrality for those individuals who assume broker positions. Cohesion, network bridging, and centrality are antecedents of OCB [10, 18]. Since IBS develops these three elements, it is also likely that IBS will be positively related to OCB.

Using IBS, it is likely that the VTL will promote a bond between participating members and the organization, creating a perception of insider status for an individual (also an antecedent of OCB [42]). We posit that those who participate in IBS, whether self-initiated or at the VTL’s behest, will exhibit some of the key dimensions of OCB. Following the reasoning above, we propose that OCB mediates the relationship between IBS and team performance:

H1a: OCB mediates the effect of IBS on VT effectiveness.

H1b: OCB will mediate the effect of IBS on VT efficiency.

4.2. EBS

EBS allows the VT to secure resources from organizational units and other entities outside its boundaries. As a broker, the VT member reinforces her value and consequently her commitment to the team by acting as gatekeeper for inbound knowledge that can be dispersed through the various brokers in the internal network. This individual can also serve as a representative to provide recognition for the team and its members and for outbound knowledge [22].

As resource exchange develops over this span, both the team member and the outside entity will gain social capital within their own unit and also with their collaborator’s unit. VT members who increase their centrality as a result of EBS experience greater POS [54]. As the VTL promotes these activities, the VT members are exposed to experiences that increase their personal development. As an organizational practice, this exposure serves as a point of recognition in the team itself as well as to external entities. Finally, the commitment to EBS requires a corresponding commitment to the team which, along with the social interaction that is key to EBS, serves to elevate the perceived quality of the task [28].

Organizational practices, developmental experience, quality of the task, and recognition have served as antecedents to POS [2]. In addition to promoting these behaviors within the team, the VTL must model these behaviors. There are certain functions that are the responsibility of the VTL and
include efforts to secure extended support from the VT’s external environments [1]. Team members would likely perceive this process as procedurally just (which is also positively related to POS [6]).

H2a: POS will mediate the effect of EBS on VT effectiveness.

H2b: POS will mediate the effect of EBS on VT efficiency.

4.3. Shared leadership

Shared leadership confers additional status and responsibility on the specific team member. Acceptance of this role is a further commitment to the VT. The designated VTL may also support emergent leadership. Functional, geographic, or culturally dispersed teams may have unique external environments. In some cases, the VT team leader may delegate a subgroup as a self-managing team (subteam). In this particular instance, the leader acknowledges that the group has adopted the shared mental model essential to overall team success and can consequently govern themselves within the confines of their subteam. The collective focus and group goals of the self-managed team contribute to the overall level of OCB [42].

The act of delegating leadership responsibilities provides a perception of insider status and support from the leader. Both of these factors are recognized antecedents of OCB [42]. Socialization that stems from these situational factors and perceived values creates a cohesive environment (also a precursor to OCB [13, 55]). These leader behaviors may serve as potential motivators to promote personal satisfaction of team members. Collectively these factors may lead to a perception of psychological ownership, which is also related to OCB.

H3a: OCB will mediate the effect of shared leadership on VT effectiveness.

H3b: OCB will mediate the effect of shared leadership on VT efficiency.

4.4. Recognition

Recognition is a rewards-based behavior that the VTL uses to encourage contributions from the team. It may be employed when dealing with an external group in a general way by reinforcing the VT’s contribution to the organization as a whole. VTLs should also exhibit evidence of individual recognition to the team members’ functional lines of command, as this is often the party that will evaluate and determine the team member’s progress within the organization. What aspects or recognition should the leader consider in order to promote optimal commitment from team members?

VTLs motivate team members with recognition by indicating that they value and support team members and consequently reinforce their self-efficacy [11]. As a result, members are more committed to team goals, vision, and shared mental models and are more likely to collaborate with others [11, 50]. Additionally, as the members commit to the shared mental model, they identify further, develop a personal sense of inclusion, and a corresponding social exchange relationship with the team [55].

The VTL must continue to monitor differences between team members, both at the individual and the subteam levels. Recognition can be public and have value, but not all public recognition is productive. The VTL must respect individual and subgroup cultural values. It is not simply a “here and now” event: the team leader must show consistency in how recognition is treated.

There are three primary components that address the issue of consistency. The leader, and through the leader the organization, must demonstrate a willingness to address each of these items. First is organizational dependability, which speaks to recognition from the initial project/team conception clear through the disbandment of the team. The second item is organizational practices and procedural justice. The VTL must keep this in mind in situations where some members are assigned to multiple teams while others are committed totally to one project [25]. Both the “part-time” member and the individual contributor must have as much opportunity for recognition as the “full time” and the collaborative members do [51, 55]. The third item is distributive justice. This differs from procedural justice as it is not process driven, but instead considers that the recognition is awarded fairly without personal bias. The VTL in this case needs to ensure that public recognition is appropriate to the contributions made by the individual or team [16].

Throughout this section we used the VTL as the primary actor initiating recognition. A behavior also required of the leader is promotion of similar behaviors from other team members. This is appropriate when a team member is exercising a shared leadership role and would also apply when IBS and EBS were evident.

For all of the reasons cited thus far—recognition, motivational factors, inclusion, cultural aspects, organizational dependability and practices, procedural and distributed justice, and fairness—there appears a real contribution to POS.

H4a: POS will mediate the effect of recognition on VT effectiveness.
H4b: POS will mediate the effect of recognition on VT efficiency.

4.5. Advocacy

Advocacy can exist wholly within the team or across external boundaries. In a VT, the need for advocacy is particularly critical as it provides a forum that demonstrates internally and externally the needs, successes, and aspirations of the team and its members. The VTL or other members deploy buffering in an effort to create a space, temporal or physical, between any two or more parties and/or groups. One level of buffering occurs when the team leader or delegate (shared leadership) uses buffering to allow a given member or subgroup additional time to address issues that arise unexpectedly or are complicated. As buffering occurs, it will be perceived as an organizational practice in support of individual efforts [28, 52]. A variation of the deflecting level of buffering is evident when the VTL blocks additional tasks from being imposed on a team member or subgroup. The VTL uses the same type of buffering when he inhibits a re-assignment that would remove the individual or subgroup from the team prematurely. The last level of buffering involves securing additional resources in support of a member or subgroup’s efforts. This level of buffering is concerned with a specific activity or event and indicates that the VTL recognizes the efforts of the individuals involved in that event [47].

Although impression management has traditionally referred to the efforts of individuals acting in their own self-interest, it is equally applicable to the efforts of the team, individually and collectively, to influence the image that others have [7]. It contributes to the team member’s perceived insider status and sense of inclusion whether it addresses positive image development or counters negative impressions [51, 55].

The final component of advocacy is promotion of the individual, subgroup, and/or team into a measurable gain and is closely aligned with recognition. One particular concern of recognition is to ensure that public recognition is appropriate to the contributions made [48]. The team leader extends this behavior further by ensuring that VT members’ transition to the next stage of their career remains on track. This is done through promoting the team and/or individual and is all about helping VT members make measurable progress in developing their careers.

Advocacy is dependent on consistent team practices. In addition to the external perception of being balanced and honest internally, the team members must perceive advocacy as procedurally just and fair in its deployment. As such, it promotes and recognizes individual and collective efforts and supports the team member’s sense of inclusion. H5a: POS will mediate the effect of advocacy on VT effectiveness. H5b: POS will mediate the effect of advocacy on VT efficiency.

5. Method

5.1. Sample and procedure

Our sample included 266 employees in 42 intact teams in 13 firms. Using the team leader as a point of reference, 30 team leaders were located in the U.S.; other countries represented were Belgium (five team leaders), United Kingdom (two team leaders) and one each from France, India, Australia, Canada, and the Netherlands and located in the U.S. Twenty-one different business units were represented. The mean age of participants was 41 to 46 years. Participants averaged 12.64 years with their current firm. Project breakdown by classification among the teams varied from information technology (30.1%), product development (30.1%), support (14.3%), control (9.5%), financial (2.4%), and other (11.9%).

As the team was the unit of analysis in our study and to minimize common method bias, it was critical that each team provide multiple sources of information. Participating organizations had to submit information from the corporate/management level (corporate sponsor), the team leader, and multiple team members. Further, each team with terminal objectives had to have either completed those objectives or be near enough to completion for the team leader and corporate sponsor to assess whether the team was meeting their ongoing objectives and performance standards of effectiveness and efficiency.

Survey data were collected from three different sources: (a) the corporate sponsor provided data on team resources (time and financial) dedicated to the team’s objectives and team performance, (b) team leaders also completed scales of team resources and performance as well as measures of team virtuality and task interdependence, and (c) team members provided measures of attitudes and team-leader behaviors. Each of the measures is described in detail below.

5.2. Measures

Team performance: Team performance was
rated by the corporate sponsor and is reflected by an index of items concerning effectiveness and efficiency of the team. The performance measure was one used by one of the participating organizations and was thus adopted to use for the other firms. Six dichotomous (yes/no) items measured team effectiveness (sample item is “The project was completed or is projected to be completed on time”) and six dichotomous (yes/no) items measured team efficiency (sample item is “The team discovered unexpected by-products of economic value to the organization”). Because the goal of the performance scales was to form an index indicating the extent to which performance metrics were achieved, we felt the use of dichotomous items was appropriate (and the subscales were formed by summing the responses to each item). Kuder-Richardson Formula 20 (KR-20) was used as an indicator of internal consistency reliability for dichotomous items, and yielded values of .93 and .78 (for effectiveness and efficiency, respectively). An overall measure of performance was also calculated, with a KR-20 value of .72.

**Ambassadorial leader behaviors:** Ambassadorial leader behaviors were measured with five subscales created for this study. Following established scale development practice we utilized an expert panel and two samples to test reliability and validity of the five subscales (confirmatory factor analyses were run on each of the samples to determine fit of the five factor model; items were deleted during the scale purification process following each analysis). The resultant measures employed in this new study demonstrate psychometric adequacy; in particular, predictive validity is demonstrated with the relationships with OCB, POS, and VT performance. Three items reflect IBS (α = .82), 3 items reflect EBS (α = .79) four items reflect shared leadership (α = .88), three items reflect recognition (α = .89), and two items reflect advocacy (α = .73). We also conducted a confirmatory factor analysis using LISREL 8.54 on the five sets of ambassadorial behavior dimensions in this sample. The results confirmed that the five-factor model obtains a good fit: RMSEA = 0.07, AGFI = 0.87, and CFI = 0.99. In the aggregate, ambassadorial leadership had an alpha of .94 when all 15 items were summed.

**Organizational citizenship behavior:** OCB was measured with 12 items from Smith, Organ, and Near [50]. Cronbach alpha internal consistency estimates ranged from .72, .89, and .90 (for civic behavior, helping behavior, and sportsmanship, respectively). For all 12 items summed together, alpha was .90.

**Perceived organizational support:** POS was evaluated using the revised 9-item scale of Eisenberger, Fasolo, and Davis-LaMastro [20]. The internal consistency estimate was .63 in this sample, and findings should be interpreted with caution due to this low value.

### 6. Results

In an initial review of the correlations between the ambassadorial factors and the proposed mediators, OCB and POS, we note that each of the factors correlate significantly with OCB as shown in Table 1. In contrast, only one of the ambassadorial factors, EBS, is significantly correlated with POS. Four of the ambassadorial factors—IBS, EBS, shared leadership, and advocacy—correlate significantly with effectiveness. None of the factors correlates with efficiency or overall performance.

Recall that POS and OCB were proposed as mediators between the ambassadorial leader behaviors and the dependent variables of effectiveness and efficiency. In spite of the popularity of the Baron and Kenny [4] framework for mediation analysis, there have been significant challenges to its application in certain situations. Collins, Graham, and

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**Table 1. Correlations and internal consistency reliability estimates for study variables**

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<td>3. Shared Leadership</td>
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<td>4. Recognition</td>
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<td>5. Advocacy</td>
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<td>6. Ambassadorial Leadership</td>
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<td>7. OCB</td>
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<td>8. POS</td>
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<td>9. Perf - Effectiveness</td>
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<td>10. Perf – Efficiency</td>
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<td>11. Performance - Aggregate</td>
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N=42. Reliability coefficients are indicated in italics on the diagonal. * p < .05. ** < .01
Flaherty [15] consider the temporal sequence between the independent variable, the mediator, and the outcome or dependent variable. Others support this challenge to a mediation process that can only be evaluated using a linear regression model [49]. A bootstrap framework is recommended when the sample size is small or moderate (between 20 to 80 cases [19]). In our sample, a case can be made for the temporal sequence of independent variable (leadership behaviors), followed by the mediator (OCB and POS), resulting in the outcome or dependent variable (effectiveness and efficiency). Further, our sample size lends itself well to a framework that is designed to capture the significant differences that might otherwise remain hidden from other methods.

### Table 2. Bootstrap Mediation Analyses

<table>
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<tr>
<th>IV</th>
<th>DV</th>
<th>Path a</th>
<th>Path b</th>
<th>Path c</th>
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<th>Model</th>
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<td>Evaluation of OCB as a mediator:</td>
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<td>Ambass. Lead.</td>
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<td>.010</td>
<td>.163</td>
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<td>.069</td>
<td>.347</td>
<td>.131</td>
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</tr>
</tbody>
</table>

| Evaluation of POS as a mediator: | | | | | | |
| Ambass. Lead. | Effective | .194 | .061 | .012 | .019 | .024* |
| IBS | Effective | .083 | .191 | .003 | .007 | .010** |
| EBS | Effective | .027 | .125 | .007 | .020 | .025* |
| Shared Lead. | Effective | .472 | .034 | .020 | .018 | .023* |
| Recognition | Effective | .384 | .043 | .130 | .142 | .119 |
| Advocacy | Effective | .353 | .044 | .040 | .046 | .050† |
| Ambass. Lead. | Efficient | .194 | .231 | .361 | .326 | .715 |
| IBS | Efficient | .083 | .221 | .373 | .315 | .705 |
| EBS | Efficient | .027 | .238 | .500 | .414 | .774 |
| Shared Lead. | Efficient | .471 | .248 | .392 | .390 | .762 |
| Recognition | Efficient | .384 | .239 | .272 | .263 | .646 |
| Advocacy | Efficient | .353 | .241 | .347 | .333 | .721 |

* †p < .10, ** p < .05, *** p < .01.

We used an analytic tool that runs a macro using SPSS developed by Andrew F. Hayes (Ohio State University, May 16 2007). This macro allowed us to run the data through 1,000 bootstraps using a confidence interval of 95. The results of the bootstrap intervention are shown in Table 2. The bootstrap framework provided evidence of support for hypotheses H1a, H2a, H3a, and marginal support (p = 0.0504) for H5a. There was no support for efficiency as an outcome of the observed behaviors.

### 7. Discussion and conclusion

This was one of the few attempts to investigate specific leadership behaviors that address the unique needs that exist within VTs. There was partial support for our hypotheses along with other exploratory items that offered promise for identifying leadership behaviors that will enhance VT performance.

First, as shown in Figure 1, we demonstrated that shared leadership, mediated by OCB, contributed significantly to the explained variance of team effectiveness. Second, there was also evidence that IBS, mediated by OCB, contributed marginally to the explained variance of team effectiveness. In addition to testing the original hypotheses, we explored the relationship between all the ambassadorial factors with both proposed mediators. This exploration yielded two other important findings. IBS, mediated by POS, contributed marginally to the explained variance of team effectiveness. In addition, advocacy, mediated by OCB, contributed significantly to the explained variance of team effectiveness. Finally, when testing the collective set of the ambassadorial behaviors, we found that ambassadorial leadership, mediated by OCB, contributed significantly to the explained variance of team effectiveness.

![Figure 1. Bootstrap Framework Results](image-url)
goals that are defined by the context of the situation. Certainly, the single most defining element of the VT is a lack of face-to-face contact. Consequently, the first leadership behavior that we proposed was IBS. Simply put, unless there is an effort to unite the members in spite of the distances that divide them, the team will be a collection of individuals that may or may not adopt the mission of the team as a personal goal. IBS provides a framework for the leader to foster the shared mental model that promotes the team's mission into a unified and collective goal. This research was one of the first studies that proposed and investigated IBS as an essential element in the leadership of VTs. Our findings indicate marked support for contributions to team effectiveness through both OCB and POS mediation of IBS, brings to a focus one of the crucial elements of leading a VT.

Theoretically, it presents a challenge of integrating multiple perspectives and disciplines. Leadership that bridges cultural divides will need to consider political and social elements at the very least. Even in a more confined community, leaders have to recognize the potential contributions of both social network theory and social exchange theory. Teams must not be considered as self-contained entities that exist in a world of their own; instead, they should be considered as dynamic forces that have their own social structure. These entities must also be considered for the role they play in the greater organization's existence, a network within a network. These theoretical concerns also present the researcher with practical challenges. Virtual teams are here to stay; it is incumbent upon those in the research community to identify and develop the tools necessary to optimize their success.

References