Role of Empowering Leadership in Absorptive Capacity through Outcome Interdependence: A Cultural Perspective

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One important practice is empowerment of followers. Although we do not deny the absence of hierarchy, we propose that empowerment can co-exist within the hierarchical structure and yield desirable results for the organization. This is the first important contribution of present study.

In today’s business environment, knowledge is given greater importance than traditional resources such as land and labor (Drucker, 1999). Knowledge leads to innovation and enhances competencies (Rai, 2014). However, hierarchy is regarded as hurdle in the effective utilization of knowledge resource. The hierarchical structure (such as in India) may obstruct information flow because information is centralized and followers have to look up to superiors whenever in need of crucial information. We suggest that knowledge can be utilized effectively within hierarchy by devolution of power to subordinates. Thus, the second contribution of this paper is to examine how empowering leadership influences absorptive capacity. Earlier works have not paid attention to the mechanism/process through which empowering leadership affects learning processes (von Krogh, Nonaka, & Rechsteiner, 2012).

Empowering leadership is defined as sharing of power between supervisors and subordinates. Absorptive capacity refers to individual learning behavior directed towards identifying new knowledge, assimilation of new knowledge, dissemination and application of that knowledge (Cohen & Levinthal, 1989, 1990; Grant, 1996; Pedrosa & Jasmand, 2011; Zahra & George, 2002). We propose that empowering leadership impacts absorptive capacity through the mediating role of social motivation measured by cooperative outcome interdependence. Cooperative outcome interdependence is defined as the individual achievement of outcomes depends on the outcomes attainment of other members.

Moreover, absorptive capacity and empowering leadership have been studied predominantly at organizational level and team level with little emphasis on individual level (Pedrosa & Jasmand, 2011; Spreitzer, 2008). Hence, this study has investigated the relationship between empowering leadership and absorptive capacity at individual level, thus underlining the third contribution of current study. In sum, by combining empowering leadership, outcome interdependence, and absorptive capacity, we tested the prediction that empowering leadership positively influences absorptive capacity through outcome interdependence (see figure 1).

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**Abstract**

This study explores the influence process involved in the relationship between empowering leadership and absorptive capacity. On 217 samples from manufacturing and service organizations, the study has found that outcome interdependence mediated the relationship between empowering leadership and knowledge identification, knowledge assimilation, knowledge dissemination, and knowledge application. The findings show that members’ empowerment is essential for inducing them to engage in knowledge processes.

**Introduction**

Culture is a dynamic system. No part of the culture remains fixed and change is inevitable. Unfortunately, cultural and cross-cultural psychologists implicitly define culture in ‘frozen’ categories such as individualism-collectivism (Hofstede, 2001). One such category is hierarchy in India. Keeping in mind the ‘rigidity’ of hierarchy in Indian organizations, scholars have proposed personalized, affectionate, nurturant, and paternalistic approach of leaders toward subordinates (Sinha, 2008). Further, subordinates are expected to ingratiate leaders and behave in obedient manner that helps them to be in the ‘in-group’ of leaders. Of course, such ways of behavior on the part of leaders and followers are still very much prevalent.

However, we need to revisit the way we describe and explain a culture in light of current social changes and historical factors. Firstly, changing social dynamics alongside expanding economy have lessened the culturally rooted hierarchical grip. Secondly, Indian culture is difficult to be categorized. This is because of the philosophical/religious (dharmic) principle that on the basis of idiosyncratic qualities, individual is free to follow one path or the other or create path that suits his/her temperament. That is why, cultural studies frame India as both individualistic and collectivistic culture (Sinha, 2008). Further, Indians are as much concerned about satisfying wishes of their superiors as they are concerned about expressing idiosyncrasy (Kakar & Kakar, 2007). Both the reasons have redefined the expression of hierarchy. This paper deviates from earlier work by underscoring the importance of new practices entering into the Indian organizations.
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In today’s business environment, knowledge is given greater importance than traditional resources such as land and labor (Drucker, 1999). Knowledge leads to innovation and enhances competencies (Rai, 2014). However, hierarchy is regarded as hurdle in the effective utilization of knowledge resource. The hierarchical structure (such as in India) may obstruct information flow because information is centralized and followers have to look up at superiors whenever in need of crucial information. We suggest that knowledge can be utilized effectively within hierarchy by devolution of power to subordinates. Thus, the second contribution of this paper is to examine how empowering leadership influences absorptive capacity. Earlier works have not paid attention to the mechanism/process through which empowering leadership affects learning processes (von Krogh, Nonaka, & Rechsteiner, 2012). Empowering leadership is defined as sharing of power between supervisors and subordinates. Absorptive capacity refers to individual learning behavior directed towards identifying new knowledge, assimilation of new knowledge, dissemination and application of that knowledge (Cohen & Levinthal, 1989, 1990; Grant, 1996; Pedrosa & Jasmand, 2011; Zahra & George, 2002). We propose that empowering leadership impacts absorptive capacity through the mediating role of social motivation measured by cooperative outcome interdependence. Cooperative outcome interdependence is defined as the individual achievement of outcomes depends on the outcomes attainment of other members.

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Empowering Leadership and Absorptive Capacity

The present study examines absorptive capacity at individual level, largely ignored by earlier works (Chuang, Jackson, & Jiang, 2013; Cramisô & Forêš, 2010; Flatten, Engelen, Zahra, & Brettel, 2011; Jansen, Van Den Bosch, & Volberda, 2005; Szulanski, 1996). Until now, absorptive capacity has not been understood empirically from empowering leadership approach. Though other leadership approaches such as transformational leadership and transactional leadership have been taken into account, they have not adequately addressed how absorptive capacity occurs (Bryant, 2003; Noruzy, Dalfard, Azhdari, Nazari-Shirkouh, & Rezaaddeh, 2012; Politis, 2002). Studies on absorptive capacity suggest that relational mechanisms such as participation (Argote, Ingram, Levine, & Moreland, 2000), collaboration (Bock, Zmud, Kim, & Lee, 2005; Jansen et al., 2005), social network (Tsai & Ghoshal, 1998), and shared cognition (Nonaka, 1991) act as precursor for absorptive capacity. Members within organization engage in interactive dialogue to construct, share, and apply new knowledge.

Empowerment as a notion is contributed by various cognitive and motivational concepts, namely, Hackman and Oldham’s job redesign model, Deci’s self-determination theory, Rotter’s internal and external locus of control, Bandura’s social learning theory, Seligman’s learned helplessness, and Lawler’s expectancy theory (Conger & Kanungo, 1988; Menon, 2001; Spreitzer, 2008; Thomas & Velthouse, 1990). Scholars have primarily taken two positions while conceptualizing empowerment: socio-structural/relational perspective and psychological/motivational perspective (Conger & Kanungo, 1988; Spreitzer, 2008). While the former focuses on enabling empowerment through organizational mechanisms that enhance power and participation, the latter sees empowerment as individuals’ subjective experience of control over work characteristics. Specifically, in this paper, empowering leadership falls under socio-structural or relational perspective to empowerment.

Empowerment has been found to be positively associated with job satisfaction (Butts, Vandenberg, DeJoy, Schaffer, & Wilson, 2009), job performance (Raub & Robert, 2010), emotional connectivity with team and organization (Raub & Robert, 2010), innovation (Spreitzer, 1995), team coordination and collaboration (Manz & Sims, 1987), extra-role behaviors (Raub & Robert, 2010), knowledge sharing (Srivastava, Bartol, & Locke, 2006; Xue, Bradley, & Liang, 2010), joint decision-making (Arnold, Arad, Rhoades, & Drasgow, 2000), and team and organizational effectiveness (Carmeli, Schaubroeck, & Tishler, 2011).

This empowerment of followers is increasingly advocated to facilitate absorptive capacity (Drucker, 1999; Pearce, 2004). Nevertheless, this is yet to be empirically substantiated. This study considers four aspects of empowering leadership: empowering followers, participative decision making, opportunistic thinking, and cooperative action. Empowering followers indicates leader’s motive to develop followers by providing them autonomy and responsibility in executing work. It makes followers independent in the use of one’s knowledge such as generation and execution of ideas to solve problems. Followers are given freedom to choose appropriate action towards a problem task. The independent action, thus, stimulates thinking and action potential of followers. Participative decision-making refers to employees’ active involvement in the decision-making process. This helps inculcating perceived control of employees over job and organization. The perceived control reduces the hierarchical boundary between supervisor and subordinate. It contributes to greater ideas sharing between supervisor and subordinate. Opportunistic thinking stresses upon the followers’ exploration into newer domains, learning new things, and experimentation with ideas. In that sense, followers are motivated to see problems as learning opportunities (Manz & Sims, 1987). This encourages followers to share their knowledge with others while learning new tasks and participate in solving complex problems. Cooperative action entails collaboration among members. Earlier findings have pointed that cooperation and coordinated efforts are necessary for effective utilization of knowledge resource (Nonaka, 1991; Sherif & Sherif, 1969; De Dreu, Nijstad, & van Knippenberg, 2008). Cooperation combines the knowledge base of employees and makes it useful for the organization. As a result, it is expected that coordinated action motivates employees to uninhibitedly exchange and share their knowledge, and implement new knowledge for organizational benefits. Therefore, we propose that:

Hypothesis 1: Empowering leadership is positively related to knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination.

Still, aforementioned arguments may not pass convincing reason regarding direct association between empowering leadership and absorptive capacity. There is possibility that empowering leadership may have indirect influence on absorptive capacity, not direct. It has been empirically observed that empowerment generates favorable impact under certain conditions such as task uncertainty (Cordery, Morrison, Wright, & Wall,
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Knowledge organizations aspire for creativity and innovation. It is held that innovation requires certain amount of decentralization of power because decentralization facilitates cooperation and flexible interactions among members (Bligh, Pearce, & Kohles, 2006; Nonaka, 1991; Pearce & Ensley, 2004; Pearce & Sims, 2002). In other words, empowerment motivates followers to undertake joint activities and coordinate with others in work performance. This is best understood by the reasoning that disempowered employees take guidance and instructions for the planning and execution of tasks from superiors resulting in doubts over employees’ self-efficacy, which in turn, may promote negative interpersonal relations and employees’ alienation from the organization and work. At interpersonal level, employees model superiors’ centralized and monitoring behavior in terms of constraining information sharing and lessening collaborative interactions with others (Bandura, 1969). In contrast to this, empowerment leads followers to search for new ideas by interacting with other members of the organization, enhances learning motivation of followers, and promotes novel solutions. Recent works have conceptualized empowering leadership as involving cooperative action (Spreitzer, 2008; Vecchio, Justin, & Pearce, 2010) and underscored the construction of relational networks among empowered people (Walsh, Bartune, & Lacey, 1998). Empowered employees are more likely to take initiative in the interest of organization (Butts et al., 2009; Manz & Sims, 1987; Menon, 2001; Spreitzer, 2008). Members who are suggested self-directedness look for resources and knowledge from other members in the organization. As members help and assist each other, and greater interpersonal linkages are established, they become cooperatively associated with each other. Thus, under empowering leadership, there is greater possibility to attain goals collectively. Hence we propose that:

**Hypothesis 2**: Empowering leadership positively relates to cooperative outcome interdependence.

As noted in studies on groups and information processing (De Dreu et al., 2008), members working in groups are facilitated by both competitive and cooperative motives. Competition generates greater information withholding, sharing of inaccurate information, and less willingness to change initial preferences (Toma & Butera, 2009). Under competition, members distrust each other and consider information sharing as impediment in getting promotions and benefits (Hinds & Pfeffer, 2003). However, cooperation might be a better facilitator of absorptive capacity (De Dreu, 2007). Rai and Prakash (2012) viewed that interdependence, cooperation, and social relationships support knowledge creation. Meanings are created within the network of relationships (Gergen, 2009; Rai & Prakash, 2012). Cooperative outcome interdependence leads to better task performance (De Dreu, 2007; Procter & Currie, 2004), discretionary behavior (Chen, Tang, & Wang, 2009), team effectiveness (Hertel, Konradt, & Orlikowski, 2004; Wagenman, 1995), cohesiveness (Chen et al., 2009), social identity (Menon & Blount, 2003), trust (De Dreu, Beersma, Stroebe, & Euwema, 2006; Toma & Butera, 2009), acting above self-interest (Canegallo, Ortona, Ottone, Ponzano, & Scaccia, 2008), constructive conflict resolution (De Dreu et al., 2006), and ideas sharing and constructive dialogue among members (Bossche, Gijsselaers, Segers, Kirschners, 2006).

Cooperation facilitates shared understanding in terms of what information and expertise different members have (Van Ginkel & Van Knippenberg, 2008). As a result, members know whom to approach for the desired information. This helps individual member to have easy access to the distinct and unique experiences and knowledge of other members. Under cooperation, members do not withhold information and share both unique and common information (Van Ginkel & Van Knippenberg, 2009). The new information acquired is easily assimilated when individuals learn in cooperative setting. While learning new tasks and understanding new information, members face difficulty in processing and assimilating new knowledge. As a result, members solicit advice from experts and peers in possession of that new knowledge. This coordination between less experienced ones and experts facilitates better integration of new knowledge with previous knowledge. The new knowledge garnered and assimilated is effectively and efficiently applied when members support each other and when the benefits are collectively associated. Doubtless cooperation leads to cohesiveness and better coordination, thus helping individual to execute new knowledge in harmonious and conflict free context. Hence:

**Hypothesis 3**: Cooperative outcome interdependence is positively related to knowledge identification, knowledge assimilation, knowledge dissemination, and knowledge acquisition.

Integrating hypothesis 1 to hypothesis 3, we propose mediation analysis:

**Hypothesis 4**: Cooperative outcome interdependence mediates relationship between empowering leadership and knowledge identification, knowledge assimilation, knowledge dissemination, and knowledge acquisition.

**Method**

**Participants and Procedure**

We administered survey on 217 employees assessing empowering leadership, outcome interdependence, and absorptive capacity (knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination). Organizations par-
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ticipated in the study were from manufacturing and services sector. Employees and organizations were told that their responses would be kept confidential. Employees were given survey form through email and by hand. It was told to them to answer in whatever format they found it convenient.

75% of the respondents filled the demographic details. 53% belonged to manufacturing sector and 22% worked in service sector. The age of participants comprised of 7.8% in 20-24 age group, 23.5% in 25-29 age group, 18.9% in 30-34 age group, 10.6% in 35-39 age group, 8.8% in 40-44 age group, 3.2% in 45-49 age group, and 1.8% in 50-54 age group. 61.8% employees were male and female participants constituted 38.2%. Managerial level employees formed 41.5% while non-managerial 30%. In education, 30.4% were undergraduates while 43.8% were post-graduate. 37.3% employees had 1-3 years of experience in their firms, 19.4% had 4-6 years of experience, 5.1% had 7-10 years of experience, and 11.1% had more than 10 years of experience.

Measures

This study is part of the doctoral study conducted on the same dataset (Rai, 2014). The respondents indicated their responses on a 7-point Likert-type scale (1 = strongly disagree and 7 = strongly agree).

Empowering leadership

Empowering leadership was composed of 14 items scale from four dimensions, namely, empowering followers, opportunistic thinking, cooperative action, and participative decision-making. We assessed empowering followers from three out of four items scale from Liden, Wayne, Zhao, and Henderson (2008) Servant Leadership Scale; three items scale of opportunistic thinking and cooperative action from Vecchio et al. (2010) Empowering Leadership Scale; and five out of six items scale of participative decision-making from Arnold et al. (2000) Empowering Leadership Scale.

Absorptive Capacity

We used four three items scale of absorptive capacity developed by Pedrosa and Jasmand (2011) to measure knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination.

Outcome interdependence

We used six items scale of outcome interdependence developed by Van der Vegt, Emans, and Van de Vliert (1998).

Data Analysis

SPSS 20.0 was used after installing PROCESS macro developed by Hayes (2013). PROCESS uses several model templates to analyze mediation, moderation, and conditional analysis. To test out mediation hypothesis, we used model 4 of the PROCESS. The results obtained are bias-corrected bootstrapped 95% confidence interval (using 10000 bootstrap samples). Further, HC3 estimator has been recommended to be used routinely (Hayes & Cai, 2007) to correct for heteroscedasticity sometimes of unknown form (Cai & Hayes, 2008; Hayes & Cai, 2007; Long & Ervin, 2000), when sample size is less than 250 and data is cross sectional (Long & Ervin, 2000).

Results

Table 1 shows significant positive correlation among empowering leadership, outcome interdependence and all four dimensions of absorptive capacity.

Table 1

Descriptive Statistics and Variables Intercorrelations

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering Leadership</td>
<td>71.28</td>
<td>13.04</td>
<td>.88</td>
<td>.409</td>
<td>.67</td>
<td>.70</td>
<td>.505</td>
<td>.67</td>
</tr>
<tr>
<td>Outcome Interdependence</td>
<td>26.67</td>
<td>6.70</td>
<td>.409</td>
<td>.64</td>
<td>.345</td>
<td>.70</td>
<td>.505</td>
<td>.67</td>
</tr>
<tr>
<td>Knowledge Identification</td>
<td>18.81</td>
<td>2.30</td>
<td>.202</td>
<td>.221</td>
<td>.64</td>
<td>.70</td>
<td>.505</td>
<td>.67</td>
</tr>
<tr>
<td>Knowledge Assimilation</td>
<td>16.74</td>
<td>3.00</td>
<td>.234</td>
<td>.272</td>
<td>.345</td>
<td>.70</td>
<td>.505</td>
<td>.67</td>
</tr>
<tr>
<td>Knowledge Application</td>
<td>18.02</td>
<td>2.43</td>
<td>.288</td>
<td>.264</td>
<td>.430</td>
<td>.505</td>
<td>.67</td>
<td>.67</td>
</tr>
<tr>
<td>Knowledge Dissemination</td>
<td>17.19</td>
<td>2.68</td>
<td>.335</td>
<td>.458</td>
<td>.328</td>
<td>.380</td>
<td>.457</td>
<td>.74</td>
</tr>
</tbody>
</table>

Note: N=217. Diagonal values indicate Cronbach alpha. All correlations are > .2 and significant p < .005.

Table 2 shows the direct and total effects analysis. Confirming Hypothesis 1, empowering leadership had significant positive association with knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination, even after controlling outcome interdependence. Hypothesis 2 was also supported indicating significant positive relationship between empowering leadership and outcome interdependence. Further, significant positive relationship was found between outcome interdependence and knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination, thus supporting hypothesis 3, after controlling empowering leadership. As shown in Table 3, the indirect effect of empowering leadership on knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination through outcome interdependence was found significant and positively related, thus confirming hypothesis 4. The test of mediation included unstandardized indirect effect, partially standardized indirect effect, and completely standardized indirect effect. The bias-corrected bootstrapped confidence interval at 95% shows indirect effect as statistically different from zero, that is, the confidence interval values do not contain zero (Hayes, 2013). The Preacher and Kelley’s Kappa-squared (κ²) refers to the “ratio of the indirect effect relative to its maximum possible value” (Hayes, 2013, p.
participated in the study were from manufacturing and services sector. Employees and organizations were told that their responses would be kept confidential. Employees were given survey form through email and by hand. It was told to them to answer in whatever format they found it convenient.

75% of the respondents filled the demographic details. 53% belonged to manufacturing sector and 22% worked in service sector. The age of participants comprised of 7.8% in 20-24 age group, 23.5% in 25-29 age group, 18.9% in 30-34 age group, 10.6% in 35-39 age group, 8.8% in 40-44 age group, 3.2% in 45-49 age group, and 1.8% in 50-54 age group. 61.8% employees were male and female participants constituted 13.4%. Managerial level employees formed 41.5% while non-managerial 30%. In education, 30.4% were undergraduates while 43.8% were post-graduate. 37.3% employees had 1-3 years of experience in their firms, 19.4% had 4-6 years of experience, 5.1% had 7-10 years of experience, and 11.1% had more than 10 years of experience.

Measures

This study is part of the doctoral study conducted on the same dataset (Rai, 2014). The respondents indicated their responses on a 7-point Likert-type scale (1 = strongly disagree and 7 = strongly agree).

Empowering leadership

Empowering leadership was composed of 14 items scale from four dimensions, namely, empowering followers, opportunistic thinking, cooperative action, and participative decision-making. We assessed empowering followers from three out of four items scale from Liden, Wayne, Zhao, and Henderson (2008) Servant Leadership Scale; three items scale of opportunistic thinking and cooperative action from Vecchio et al. (2010) Empowering Leadership Scale; and five out of six items scale of participative decision-making from Arnold et al. (2000) Empowering Leadership Scale.

Absorptive Capacity

We used four three items scale of absorptive capacity developed by Pedrosa and Jasmand (2011) to measure knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination.

Outcome interdependence

We used six items scale of outcome interdependence developed by Van der Vegt, Emans, and Van de Vliert (1998).

Data Analysis

SPSS 20.0 was used after installing PROCESS macro developed by Hayes (2013). PROCESS uses several model templates to analyze mediation, moderation, and conditional analysis. To test out mediation hypothesis, we used model 4 of the PROCESS. The results obtained are bias-corrected bootstrapped 95% confidence interval (using 10000 bootstrap samples). Further, HC3 estimator has been recommended to be used routinely (Hayes & Cai, 2007) to correct for heteroscedasticity sometimes of unknown form (Cai & Hayes, 2008; Hayes & Cai, 2007; Long & Ervin, 2000), when sample size is less than 250 and data is cross sectional (Long & Ervin, 2000).

Results

Table 1 shows significant positive correlation among empowering leadership, outcome interdependence and all four dimensions of absorptive capacity.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering Leadership</td>
<td>71.28</td>
<td>13.04</td>
<td>.88</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome Interdependence</td>
<td>29.67</td>
<td>6.70</td>
<td>.409</td>
<td>.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Identification</td>
<td>18.81</td>
<td>2.30</td>
<td>.202</td>
<td>.221</td>
<td>.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Assimilation</td>
<td>16.74</td>
<td>3.00</td>
<td>.234</td>
<td>.272</td>
<td>.345</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Application</td>
<td>18.02</td>
<td>2.43</td>
<td>.288</td>
<td>.264</td>
<td>.430</td>
<td>.505</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>Knowledge Dissemination</td>
<td>17.19</td>
<td>2.68</td>
<td>.335</td>
<td>.458</td>
<td>.328</td>
<td>.380</td>
<td>.457</td>
<td>.74</td>
</tr>
</tbody>
</table>

Note: N=217. Diagonal values indicate Cronbach alpha. All correlations are > .2 and significant p < .005.

Table 2 shows the direct and total effects analysis. Confirming Hypothesis 1, empowering leadership had significant positive association with knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination, even after controlling outcome interdependence. Hypothesis 2 was also supported indicating significant positive relationship between empowering leadership and outcome interdependence. Further, significant positive relationship was found between outcome interdependence and knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination, thus supporting hypothesis 3, after controlling empowering leadership. As shown in Table 3, the indirect effect of empowering leadership on knowledge identification, knowledge assimilation, knowledge application, and knowledge dissemination through outcome interdependence was found significant and positively related, thus confirming hypothesis 4. The test of mediation included unstandardized indirect effect, partially standardized indirect effect, and completely standardized indirect effect. The bias-corrected bootstrapped confidence interval at 95% shows indirect effect as statistically different from zero, that is, the confidence interval values do not contain zero (Hayes, 2013). The Preacher and Kelley’s Kappa-squared ($\kappa^2$) refers to the “ratio of the indirect effect relative to its maximum possible value” (Hayes, 2013, p.
Table 2
Direct and Total Effects: Empowering Leadership, Outcome interdependence, and Knowledge Identification and Knowledge Assimilation

<table>
<thead>
<tr>
<th>Variables and hypothesis testing</th>
<th>Direct effect</th>
<th>Coeff</th>
<th>CI</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering leadership</td>
<td>Outcome interdependence</td>
<td>.210 (.035)</td>
<td>[.140, .280]</td>
<td>5.91</td>
<td>.&lt;.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .16, MSE = 37.60, F(1, 215) = 34.95, p = .001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Knowledge identification</td>
<td>.053 (.015)</td>
<td>[.004, .066]</td>
<td>2.26</td>
<td>.024</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .041, MSE = 5.11, F(1, 215) = 5.11, p = .024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome interdependence, controlling for empowering leadership</td>
<td>Knowledge assimilation</td>
<td>.057 (.026)</td>
<td>[.005, .109]</td>
<td>2.16</td>
<td>.031</td>
</tr>
<tr>
<td>Empowering leadership, controlling for outcome interdependence</td>
<td></td>
<td></td>
<td>.023 (.015)</td>
<td>[.005, .053]</td>
<td>1.57</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .063, MSE = 5.01, F(2, 214) = 4.15, p = .016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Knowledge assimilation</td>
<td>.054 (.017)</td>
<td>[.020, .087]</td>
<td>3.18</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .054, MSE = 8.57, F(1, 215) = 10.13, p = .001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome interdependence, controlling for empowering leadership</td>
<td>Knowledge assimilation</td>
<td>.094 (.032)</td>
<td>[.031, .158]</td>
<td>2.94</td>
<td>.003</td>
</tr>
<tr>
<td>Empowering leadership, controlling for outcome interdependence</td>
<td>Knowledge assimilation</td>
<td>.054 (.016)</td>
<td>[.007, .067]</td>
<td>2.01</td>
<td>.045</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .092, MSE = 8.27, F(2, 214) = 8.76, p &lt; .001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Knowledge application</td>
<td>.053 (.012)</td>
<td>[.029, .078]</td>
<td>4.32</td>
<td>.001</td>
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<td></td>
<td></td>
<td></td>
<td>R² = .082, MSE = 5.48, F(1, 215) = 18.66, p &lt; .001</td>
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<tr>
<td>Outcome interdependence, controlling for empowering leadership</td>
<td>Knowledge application</td>
<td>.064 (.026)</td>
<td>[.011, .116]</td>
<td>2.42</td>
<td>.016</td>
</tr>
<tr>
<td>Empowering leadership, controlling for outcome interdependence</td>
<td>Knowledge application</td>
<td>.040 (.012)</td>
<td>[.015, .065]</td>
<td>3.14</td>
<td>.001</td>
</tr>
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<td></td>
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<td>R² = .108, MSE = 5.35, F(2, 214) = 11.74, p &lt; .001</td>
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<td></td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Knowledge dissemination</td>
<td>.068 (.016)</td>
<td>[.036, .101]</td>
<td>4.19</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .112, MSE = 6.40, F(1, 215) = 17.56, p &lt; .001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome interdependence, controlling for empowering leadership</td>
<td>Knowledge dissemination</td>
<td>.154 (.026)</td>
<td>[.101, .206]</td>
<td>5.76</td>
<td>.001</td>
</tr>
<tr>
<td>Empowering leadership, controlling for outcome interdependence</td>
<td>Knowledge dissemination</td>
<td>.036 (.014)</td>
<td>[.008, .064]</td>
<td>2.54</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R² = .235, MSE = 5.54, F(2, 214) = 26.11, p &lt; .001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: N = 217. Coeff. = Regression coefficient; CI = Confidence interval. Results based on [95 % confidence interval] and HC3 estimator. (Standard Error in parentheses after regression value).

Table 3
Tests of mediation: Empowering Leadership influencing Knowledge Identification, Knowledge Assimilation, Knowledge Application, and Knowledge Dissemination through Outcome Interdependence

<table>
<thead>
<tr>
<th>Mediation</th>
<th>Indirect effect</th>
<th>Partially standardized indirect effect</th>
<th>Completely standardized indirect effect</th>
<th>Preacher and Kelley Kappa-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge identification</td>
<td>.012 (.005)</td>
<td>[.002, .025]</td>
<td>[.001, .010]</td>
<td>[.001, .134]</td>
</tr>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge assimilation</td>
<td>.019 (.007)</td>
<td>[.007, .035]</td>
<td>[.002, .011]</td>
<td>[.002, .029]</td>
</tr>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge application</td>
<td>.013 (.005)</td>
<td>[.003, .025]</td>
<td>[.001, .010]</td>
<td>[.001, .134]</td>
</tr>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge dissemination</td>
<td>.032 (.007)</td>
<td>[.020, .047]</td>
<td>[.012, .017]</td>
<td>[.007, .025]</td>
</tr>
</tbody>
</table>

Sobel test

<table>
<thead>
<tr>
<th>Effect</th>
<th>Z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge identification</td>
<td>2.00</td>
<td>.045</td>
</tr>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge assimilation</td>
<td>2.60</td>
<td>.009</td>
</tr>
<tr>
<td>Empowering leadership → Outcome interdependence → Knowledge application</td>
<td>1.42</td>
<td>.153</td>
</tr>
</tbody>
</table>

Note: N = 217. CI = Confidence interval. Results based on bias-corrected bootstrap sample size = 10000, [95 % confidence interval] and HC3 estimator. (Standard Error in parentheses) after regression value.

Discussion

This study has significantly contributed to absorptive capacity and empowering leadership literature. Previous works on absorptive capacity have focused on team and organizational level analysis while individual level has been relegated (Camisón & Forés, 2010). Although some dimensions such as knowledge sharing and knowledge transfer have been examined at the individual level, they still provide no substantive answer to leadership as precursor and suggest no understanding about other dimensions of absorptive capacity. Moreover, studies that have focused on leadership such as transformational and transactional have not addressed the process through which leadership influences absorptive capacity, thus leaving the field unexplored (Von Krogh et al., 2012). This study has found the role of empowering leadership in individual level absorptive capacity through outcome interdependence. This is new and robust finding apropos to how empowering leadership affects absorptive capacity.

Socio-structural empowerment has been relatively less explored empirically in comparison to subjective or psychological empowerment (Spreitzer, 2008). Further, works on empowerment have contested whether it signifies trimming of hierarchy (Pearce, Conger, & Locke, 2008). The present study has given credence to our rationale that emp-
Thus, indirect effect on knowledge identification had $b = 0.01$ and $\kappa^2 = 0.06$ indicating that .01 is 6% of its maximum possible value. In a similar way, for knowledge assimilation, knowledge application, and knowledge dissemination, indirect effect is 8%, 7%, and 15% of its maximum possible value respectively. Normal theory test or Sobel test also supported the mediation effects.

| Table 2 | Direct and Total Effects: Empowering Leadership, Outcome interdependence, and Knowledge Identification and Knowledge Assimilation |
|-------------------------------|-----------------|-----------------|-----------------|
| Variables and hypothesis testing | Coeff. | CI | t | p |
| Empowering leadership | Outcome interdependence | 0.210 (0.035) | [0.140, 0.280] | 5.91 | $<.001$ |
| Empowering leadership | Knowledge identification | 0.055 (0.015) | [0.005, 0.109] | 2.66 | $<.024$ |
| Outcome interdependence, controlling for empowering leadership | 0.057 (0.026) | [0.005, 0.109] | 2.16 | $<.031$ |
| Empowering leadership, controlling for outcome interdependence | 0.023 (0.015) | [0.005, 0.053] | 1.57 | $<.115$ |
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| Empowering leadership, controlling for outcome interdependence | 0.054 (0.016) | [0.007, 0.070] | 2.01 | $<.045$ |
| Empowering leadership | Knowledge application | 0.053 (0.012) | [0.029, 0.078] | 4.32 | $<.001$ |
| Outcome interdependence, controlling for empowering leadership | 0.064 (0.026) | [0.011, 0.116] | 2.42 | $<.016$ |
| Empowering leadership, controlling for outcome interdependence | 0.060 (0.012) | [0.015, 0.065] | 3.14 | $<.001$ |
| Empowering leadership | Knowledge dissemination | 0.068 (0.016) | [0.036, 0.101] | 4.19 | $<.001$ |
| Outcome interdependence, controlling for empowering leadership | 0.154 (0.026) | [0.101, 0.206] | 7.56 | $<.001$ |
| Empowering leadership, controlling for outcome interdependence | 0.036 (0.014) | [0.008, 0.064] | 2.54 | $<.011$ |
| Total effect | 0.235 | [0.164, 0.306] | 8.76 | $<.001$ |

Note: $N = 217$. Coeff. = Regression coefficient; CI = Confidence interval. Results based on [95% confidence interval] and HC3 estimator. (Standard Error in parentheses after regression value).

<p>| Table 3 | Tests of mediation: Empowering Leadership influencing Knowledge Identification, Knowledge Assimilation, Knowledge Application, and Knowledge Dissemination through Outcome interdependence |
|-------------------------------|-----------------|-----------------|-----------------|
| Empowering leadership | Outcome interdependence | 0.012 (0.005) | [0.002, 0.025] | 0.05 | [0.001, 0.100] | 0.067 | [0.030, 0.144] | 0.063 | [0.027, 0.123] |
| Empowering leadership | Knowledge identification | 0.013 (0.007) | [0.007, 0.035] | 0.06 | [0.002, 0.111] | 0.069 | [0.009, 0.151] | 0.081 | [0.027, 0.139] |
| Empowering leadership | Knowledge assimilation | 0.012 (0.005) | [0.003, 0.025] | 0.05 | [0.001, 0.100] | 0.072 | [0.009, 0.151] | 0.068 | [0.027, 0.126] |
| Empowering leadership | Knowledge application | 0.032 (0.007) | [0.020, 0.047] | 0.12 | [0.007, 0.017] | 0.157 | [0.011, 0.225] | 0.153 | [0.050, 0.298] |
| Empowering leadership | Knowledge dissemination | 0.030 (0.006) | [0.020, 0.040] | 0.10 | [0.003, 0.017] | 0.147 | [0.010, 0.225] | 0.145 | [0.040, 0.250] |</p>
<table>
<thead>
<tr>
<th>Effect CI</th>
<th>Partially standardized indirect effect CI</th>
<th>Completely standardized indirect effect CI</th>
<th>Preacher and Kelley Kappa squared CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering leadership</td>
<td>Outcome interdependence</td>
<td>0.012 (0.006)</td>
<td>2.00</td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Knowledge identification</td>
<td>0.019 (0.007)</td>
<td>2.60</td>
</tr>
<tr>
<td>Empowering leadership</td>
<td>Outcome interdependence</td>
<td>0.012 (0.006)</td>
<td>2.75</td>
</tr>
</tbody>
</table>

Note: $N = 217$. CI = Confidence interval. Results based on bias-corrected bootstrap sample size = 10000, [95% confidence interval] and HC3 estimator. (Standard Error in parentheses) after regression value.

### Discussion

This study has significantly contributed to absorptive capacity and empowering leadership literature. Previous works on absorptive capacity have focused on team and organizational level analysis while individual level has been relegated (Camisón & Forés, 2010). Although some dimensions such as knowledge sharing and knowledge transfer have been examined at the individual level, they still provide no substantive answer to leadership as precursor and suggest no understanding about other dimensions of absorptive capacity. Moreover, studies that have focused on leadership such as transformational and transactional have not addressed the process through which leadership influences absorptive capacity, thus leaving the field unexplored (Von Krogh et al., 2012). This study has found the role of empowering leadership in individual level absorptive capacity through outcome interdependence. This is new and robust finding apropos to how empowering leadership affects absorptive capacity.

Socio-structural empowerment has been relatively less explored empirically in comparison to subjective or psychological empowerment (Spreitzer, 2008). Further, works on empowerment have contested whether it signifies trimming of hierarchy (Pearce, Conger, & Locke, 2008). The present study has given credence to our rationale that emp-
powerment can co-exist within the hierarchical structure of Indian organizations. The first conclusion is the positive association between empowering leadership and dimensions of absorptive capacity (even after controlling outcome interdependence). This finding suggests the importance of autonomy, independence, and coordination to facilitate discretionary behaviors such as absorptive capacity. This is in consonance with few works suggesting that empowering leadership enhances knowledge sharing (Srivastava et al., 2006). However, the work of Srivastava et al. (2006) considered only knowledge sharing while other aspects of learning were left untouched. The present work has widened earlier works by considering other aspects of learning behavior.

The second conclusion is that the empowering leadership is positively related to cooperative outcome interdependence. Empowering leadership reduces the psychological and structural barriers between members. The emphasis on decentralization and followers’ development enhances cooperation among members and align them towards achieving common goals. The autonomy and self-directedness given to followers and hassle free interaction between leaders and followers inspires members to perform their roles and responsibilities with dedication and commitment, resulting in greater interaction and collaboration among members.

The third conclusion derived is the positive influence of outcome interdependence on absorptive capacity. Cooperation facilitates sharing of shared/common and unshared/unique information. Under cooperation, members learn from each other by exchanging information and helping each other in executing new knowledge. This is quite consistent with earlier works that cooperation plays pivotal role in knowledge sharing and knowledge transfer (Hinds & Pfeffer, 2003). Our study further extends this work to suggest that cooperation also influences individuals’ search for information from appropriate source (knowledge identification) and their effort of integrating new knowledge with previous knowledge (knowledge assimilation).

**Strengths, Limitations and Future Directions**

The first important contribution of this study is the possibility of empowering leadership in Indian organizations whose formal and information structure is hierarchical. Indian organizations should create platforms that provide greater role to employees. This would enrich the reciprocal influence between leader and followers. The psychological barrier present in the minds of employees can also be removed if the leader encourages employees’ participation. Further, there is quite negligible understanding of how leadership in general and empowering leadership in particular affects absorptive capacity. Our findings have addressed this lacuna by examining empowering leadership and how it affects absorptive capacity through cooperation. The second strength is generalizability of the results. The study has included diverse and large sample from various organizations, considered participants from various departments, and people from all levels of organizations. This has provided greater confidence into the results. The third positive feature is the study’s focus on individual level absorptive capacity. This study has tried to bridge the gap between individual and unit study so that a holistic understanding of the concept emerges.

The first limitation of this study is it is not cross-cultural. However, we tried to convey in this paper that hierarchy in Indian culture is not static. Rather, in light of changing economic and social equations in India, hierarchy manifests with multiple possibilities. This study may provide impetus to future research in cross-cultural psychology among other Asian countries undergoing similar transformation in social context. Second limitation is the cross sectional nature of the study, which precludes causality among variables. Hence, longitudinal study is preferred to infer causal relationships. However, we tried to minimize this by focusing on hypothesis formulation based on theory and previous empirical works. Another limitation is occurrence of common source bias. Spector (2006) argued that this bias is not significant enough to affect the results validity. Moreover, the presence of mediating mechanism makes the study intricate and significance or non-significance of the findings may not be solely due to common source bias. Further, the use of bootstrap confidence interval and HC3 estimator has provided credibility to the findings.

Unlike socio-structural empowerment, the dynamics and processes of psychological empowerment are different. It would be interesting to explore whether psychological empowerment follows different mechanisms. Moreover, the combined effect of empowering leadership and psychological empowerment shall also provide useful insights. Additionally, other mediating mechanisms should also be explored in empowering leadership and absorptive capacity. For instance, although we have taken outcome interdependence, other studies should consider task interdependence and resource interdependence as avenues for further exploration.

**Author note**

First author is thankful for the fellowship provided by University Grants Commission.

**References**


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The third conclusion derived is the positive influence of outcome interdependence on absorptive capacity. Cooperation facilitates sharing of shared/common and unshared/unique information. Under cooperation, members learn from each other by exchanging information and helping each other in executing new knowledge. This is quite consistent with earlier works that cooperation plays pivotal role in knowledge sharing and knowledge transfer (Hinds & Pfeffer, 2003). Our study further extends this work to suggest that cooperation also influences individuals’ search for information from appropriate source (knowledge identification) and their effort of integrating new knowledge with previous knowledge (knowledge assimilation).

Strengths, Limitations and Future Directions

The first important contribution of this study is the possibility of empowering leadership in Indian organizations whose formal and information structure is hierarchical. Indian organizations should create platforms that provide greater role to employees. This would enrich the reciprocal influence between leader and followers. The psychological barrier present in the minds of employees can also be removed if the leader encourages employees’ participation. Further, there is quite negligible understanding of how leadership in general and empowering leadership in particular affects absorptive capacity. Our findings have addressed this lacuna by examining empowering leadership and how it affects absorptive capacity through cooperation. The second strength is generalizability of the results. The study has included diverse and large sample from various organizations, considered participants from various departments, and people from all levels of organizations. This has provided greater confidence into the results. The third positive feature is the study’s focus on individual level absorptive capacity. This study has tried to bridge the gap between individual and unit study so that a holistic understanding of the concept emerges.

The first limitation of this study is it is not cross-cultural. However, we tried to convey in this paper that hierarchy in Indian culture is not static. Rather, in light of changing economic and social equations in India, hierarchy manifests with multiple possibilities. This study may provide impetus to future research in cross-cultural psychology among other Asian countries undergoing similar transformation in social context. Second limitation is the cross sectional nature of the study, which precludes causality among variables. Hence, longitudinal study is preferred to infer causal relationships. However, we tried to minimize this by focusing on hypothesis formulation based on theory and previous empirical works. Another limitation is occurrence of common source bias. Spector (2006) argued that this bias is not significant enough to affect the results validity. Moreover, the presence of mediating mechanism makes the study intricate and significance or non-significance of the findings may not be solely due to common source bias. Further, the use of bootstrap confidence interval and HC3 estimator has provided credibility to the findings.

Unlike socio-structural empowerment, the dynamics and processes of psychological empowerment are different. It would be interesting to explore whether psychological empowerment follows different mechanisms. Moreover, the combined effect of empowering leadership and psychological empowerment shall also provide useful insights. Additionally, other mediating mechanisms should also be explored in empowering leadership and absorptive capacity. For instance, although we have taken outcome interdependence, other studies should consider task interdependence and resource interdependence as avenues for further exploration.

Author note

First author is thankful for the fellowship provided by University Grants Commission.

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