Exploring team performance in high-tech industries: Future trends of building up teamwork

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A N T H O R S

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A B S T R A C T

This study proposes a model based on coopetition theory drawn from economics literature to explain the formation of team agility and performance. In the proposed model, team performance and team agility are affected by collectivism, team politics, transformational leadership, and transactional leadership via the mediation of coopetition and team empowerment. Team performance is also impacted by team agility. Empirical testing of this model, by investigating team personnel in information technology (IT) organizations, confirms the applicability of coopetition among IT working teams. Based on this study’s empirical findings, managerial implications for building up teamwork and research limitations are provided.

1. Introduction

Business organizations to date face dramatically turbulent and volatile competitive threats in the global market [1]. Effectively coping with such unexpected threats and taking advantage of the threats as opportunities lay heavily upon team agility and its effect on performance [1–3]. Team agility is defined as the aptitude of a team to quickly respond to changes in a market environment [4,5] and achieve successful exploration of competitive bases (e.g., speed, flexibility) through team integration, which facilitates the team to effectively change in response to customers’ varying demands or market crisis [1,6]. The agility concept was popularized in manufacturing in the early 1990s and was soon extended into the broader business context, evolving notions of the agile competitor [7], agile business relationships [8], agile supply chains [4], agile enterprises [9], agile decision support systems [10], and most recently the team agile workforce (e.g., Van Oyen, Gel, & Hopp [11]).

Team agility is important, because it helps achieve a number of business benefits such as supporting the strategic objectives of cost, speed, time, quality, responsiveness, and variety (e.g., Hopp & Van Oyen [12]; Swafford et al. [5]). Unfortunately, when it comes to management actions that facilitate team agility in order to improve team performance, the literature is highly limited to untested prescriptions [3]. To complement the shortage in the previous literature, this study applies the coopetition theory to explore team agility formation and its effect on team performance. The inclusion of both elements in cooperation (i.e., cooperation and competition) as key mediators in this study can avoid a partial emphasis on one mediator at the expense of another, thus facilitating a full range of understanding about the formation of team agility and team performance. This study complements previous studies that have discussed group performance and different mediators such as group potency (e.g., Jung & Sosik [13]; Stajkovic, Lee, & Nyberg [14]) and goal alignment (e.g., Doolen, Hacker, & Van Aken [15]).

The interpersonal relationships among team members are comprised of two elements: cooperation and competition. If both elements exist, then the relationship between the members is considered coopetition [16]. Rooted from game
coopetition, this study generates an in-depth understanding concerning the key determinants of team agility and performance.

Second, this study extends coopetition as a mediator to team empowerment as another mediator, which jointly helps explain the formation of team agility and performance. Indeed, most previous research related to coopetition considers cooperation and competition as major mediators, but often neglects other mediators. This study demonstrates how team empowerment and coopetition jointly influence team performance.

Third and lastly, while some prior empirical studies have examined coopetition at the firm level (e.g., Tiessen & Linton [38]), this study is one of the few to use primary survey data collected from employees to test the determinants and outcomes of coopetition and team empowerment based on team-level analyses. Research supports and extends the notion that coopetition is important not only among intra-organizational partners, but also among inter-team parties (or inter-organizational parties), and these interactions are key for teams’ or firms’ long-term viability [21].

2. Research model and hypotheses

This study proposes a research model (see Fig. 1) based on the coopetition theory to explain the formation of team agility and team performance. The model hypothesizes that coopetition and empowerment mediate the relationship between team agility, team performance, and their antecedents. Although few previous studies have attempted to discuss empowerment by including either cooperation or competition (e.g., Desivilya-Syna [39]; Kirkman & Shapiro [40]), it is important for this study to complement previous studies by simultaneously examining both coopetition and empowerment as mediators in a single model setting. Indeed, while coopetition represents the frequent interaction among team members (i.e., member–member relationship), team empowerment reveals how team members are more decisive on their own and less dependent on formal team leaders (i.e., member–leader relationship) [41], suggesting their unique roles to jointly explain the formation of team performance. For example, previous literature has illustrated that, without a thorough examination of both cooperation and empowerment and their impact on team productivity (or performance) (e.g., Kirkman & Shapiro [40]), our understanding of these factors remains limited, and group initiatives directed at strengthening team performance and agility will remain unjustifiable and based on blind faith.

Following the above rationale about empowerment, this study uses the coopetition theory as a foundation to expand the scope of our research model. In addition to firm level, the coopetition theory has been also widely used at the individual level [26,42,43] or group level (e.g., Lu, Tjosvold, & Shi [44]). In terms of a work team, the coopetition theory is a way of defining a strategic game of interpersonal interaction that models the whole ‘interplay range’ in detecting interpersonal interdependence in the team [45]. It also refers to a theoretical structure of interpersonal interdependence where cooperation and competition are simultaneously present and intertwined.

Based on the concept of interpersonal interdependence where cooperation and competition are intertwined, we then introduce collectivism and team politics as a team climate
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