

Transformational Leadership, Corporate Social Responsibility, Organizational Innovation, and Organizational Performance: Symmetrical and Asymmetrical Analytical Approaches

Abstract

This study examines the relationship between transformational leadership and organizational performance by evaluating mediatory role of corporate social responsibility (CSR) and organizational innovation which has received considerably less attention in the literature. This study introduced CSR and organizational innovation as potential mediators of relationships between the key constructs of transformational leadership and organizational performance. The sufficient direct and mediation effects of predictors were tested using partial least square – structure equation modeling (PLS-SEM) with data from 396 French firms. Sufficient configurations of the predictors for indicating high and low scores of performance were explored using fuzzy set Qualitative Comparative Analysis (fsQCA). The PLS-SEM results show that both the direct and indirect effects of transformational leadership on performance are significant. The fsQCA results reveal that a combination of CSR and transformational leadership lead to high performance. Alternately, high performance results from high innovation. This empirical study contributes to the current knowledge by applying both symmetrical and asymmetrical approaches to indicate performance at organizational level. This study discusses the findings and provides theoretical, managerial, and research implications.

Key words: Transformational leadership, CSR, innovation, performance, mediation, PLS-SEM, fsQCA

1. Introduction

The literature on the association of CSR and organizational performance has grown exponentially in recent years (Bernal-Conesa et al., 2016; Briones Peñalver et al., n.d.; Cuadrado-Ballesteros et al., 2017; Farrington et al., 2017; Herrera, 2015; Marin et al., 2017; Moore, 2001; Saeidi et al., 2015; Sun and Stuebs, 2013; Wang et al., 2015; Wiengarten et al., 2015). However, research shows that the relationship between CSR and organizational performance is not universal, but mediated or moderated by internal and external factors, such as organizational trust and Identification, CEO founder status, organizational size, customer satisfaction, reputation, competitive advantage, CSR knowledge, trust in CSR commitment, and engagement (Inoue et al., 2017; Inoue and Lee, 2011; Marin et al., 2017; Martínez-Martínez et al., 2017).

A late pattern in CSR research starts to deliberate on the role of leadership in selecting and implementing organizational practices (Angus-Leppan et al., 2010; Ciulla, 2004). The fundamental components that relate leadership to the organizational performance and CSR remains understudied (Pless et al., 2012; Waldman and Siegel, 2008). The role of leadership in the corporate scandals and bankruptcies is highlighted in past studies (Bernstein, 2009; Parguel et al. 2011). A review on “what we know and do not know about CSR” (Aguinis and Glavas, 2012), states that existing research is lacking a comprehensive mechanisms connecting CSR with outcomes—to be specific, mediation phenomenon.

Leadership is seemingly a fundamental solution to the issue that need to be investigated these mediation impacts and incorporate them in theories on CSR. There is a need for research to incorporate the idea of leadership in hypotheses on CSR by investigating leader influences on all stakeholders included. There are few studies have analyzed the relation of leadership and CSR (Pless et al., 2012; Waldman and Siegel, 2008). Nevertheless, these studies have not considered

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the part of leadership in CSR. Waldman et al. (2006) particularly call for more research on the role of leadership in setting and actualizing CSR strategies at various levels of an organization. We concur with Waldman et al. (2006) that such a multilevel center “could help provide a richer understanding of linkages between leadership and CSR across levels *of an organization*” (p. 1721).

Several studies have depicted leadership practices that are key to CSR practices, for instance, the inspiring and intellectually stimulant parts (Angus-Leppan et al., 2010; Nijhof et al., 2002; Surroca et al., 2010; Waldman et al., 2006). Higher CSR can transmit various advantages to organizations, and different stakeholders including the employees and customers, an enhanced performance, competitive advantage, attractive appeal to institutional investors, and organizational repute and image (see Aguinis and Glavas 2012). Albeit Waldman et al. (2006) contemplated the relationship between transformational leadership and CSR, yet this study propels the writing by placing CSR as intermediary amongst transformational leadership and performance.

Numerous studies reported transformational leadership contributes in organizational performance through certain mediators such as society (Ogbonna and Harris, 2000), entrepreneurship and absorptive capacity (García-Morales et al., 2008). Comprehension of the procedures through which the leader applies this impact is still constrained and to a great extent theoretical (García-Morales et al., 2008). This study aims to break down experimentally whether transformational leadership applies this impact on organizational performance through the mediatory effect of CSR and innovation. This empirical research also aims to explore sufficient configurations for predicting organization performance using asymmetrical analytical approach.

The present study used stakeholder theory to support application of leadership style for CSR which further support innovation and performance. Stakeholder theory implies that the extent to

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which managers attend to stakeholder interests is largely dependent upon the styles of managers.

Waldman et al. (2006) suggested that the upper echelons perspective should be included to advance our understanding of the role of leadership in CSR as a strategic choice. Stakeholder theory postulates that managerial values and belief systems help to shape the way managers attend to various stakeholder demands like innovation (Nijhof et al., 2002).

In response to the above rationales, this study contributes to the literature in three ways. First, it integrates transformational leadership theory with the increasing interest in CSR, thereby examining how a leadership style, which is transformational leadership, may become potential driver of CSR policies. Thus, this study proposes a model where CSR and organizational innovation mediate the relationship between transformational leadership and organizational performance, examining the relationship between these variables.

Second, this study seeks to find empirical evidence of the linkage between transformational leadership and CSR. To the best authors' knowledge, this study is among first research that used PLS-SEM to investigate sufficient factors and fsQCA to calculate causal sufficient configuration (i.e. combination of the factors) leading to organizational performance. Therefore, this study deepens the current knowledge by application of both symmetrical and asymmetrical approaches for testing structural and configurational models indicating organization performance.

Third, this study addresses an empirical gap for evidence of the relationship between transformational leadership and performance by proposing a conceptual model in which CSR and innovation serve as mediation factor of these two links. This focus provides one of the main theoretical and empirical contributions of this work. Finally, despite the vast number of studies on transformational leadership (Chen et al., 2012; García-Morales et al., 2008, 2012; Gumusluoglu and Ilsev, 2009; McKee et al., 2011; Veríssimo and Lacerda, 2015; Wiengarten et al., 2015), which

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has focused on its direct outcomes such as team and organizational performance foregoing the underlying mediatory mechanisms (Christensen et al., 2014).

In term of method, this study offers additional support for using mixed-method approach including analyses of net effects or symmetrical method and combinatory effects or symmetrical method. This study uses PLS-SEM to identify net effects of transformational leadership, CSR, and organizational innovation on organizational performance. Beyond symmetrical method (i.e., PLS-SEM), this study applies an asymmetrical approach (i.e., fsQCA) to explore combination of the above predictors (i.e., causal recipes) to model both high and low scores of organizational performances. The results of fsQCA offers a guideline for the managers to know how to combine predictors (e.g., CSR and transformational leadership) to predict conditions leading to high and low scores of performance (Olya & Akhshik, 2018; Olya & Al-ansi, 2018).

This study is organized as follows. First, we begin with a brief review of the relevant literature and develop a set of theoretical grounded hypotheses for empirical testing. Subsequently, sample data and method are explained, following the results of PLS-SEM and fsQCA approached. Next, we discuss our findings considering the theoretical framework. Finally, we conclude with a discussion of our findings, theoretical and practical implications, and pathways for further research.

2. Conceptual development and research variables

2.1 CSR

Since 1970, the concept of corporate social responsibility (CSR) has gained vast popularity from various communities, when CSR received considerable attention from academic scholars, business practitioners, environmental activists, consumer advocates, human right associations, and media representatives. CSR has become a more prominent concept when the community activists has started a debate on social accountability of corporations. Though numerous efforts to bring

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about a clear, unified and precise definition of CSR, but still confusion remains how CSR should be defined (Dahlsrud, 2008). Carroll (1997) definition of CSR is most widely used, conceptualized, operationalized, and measured, and also seems most representative of the definitions present in the literature. CSR refers to “the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time” (Carroll & Shabana, p. 89). Therefore, this study re-conceptualizes the Carroll (1997) definition of CSR that identifies four categorizations (i.e., economic, legal, ethical, and discretionary responsibilities). Carroll (1997) definition of CSR not only identifies the business’s obligations toward society, it also differentiates a business’s profit making and non-profit (social) responsibilities (Saeidi et al., 2015).

Further, in accordance with the resource-based view of firm, CSR results in reaping certain internal and external rewards for the firms. The external benefits of CSR are associated to its consequence on corporate reputation; a fundamental intangible resource (Kurucz, Colbert & Wheeler, 2008). Actually the firms with excellent reputations have capability to construct relations with external actors i.e. consumers, investors and society. On the other hand, the internal paybacks of CSR are linked with its corporate culture and human resources (Branco & Rodrigues, 2006) like its effects on the attitudes of employees and the behaviors at work place (Brammer, Millington & Rayton, 2007; Collier & Estebien, 2007).

2.2 Transformational leadership

Since Burns (1978), organization and management scholars have initiated the debate on the important role of transformational and transactional leadership styles, played in development of organizations. Transformational leadership, unlike “transactional leadership”, stimulates innovation and knowledge and generates advantages for organizational performance (García-Morales et al, 2012). Burns distinguishes between “transactional leadership” in which leaders establish reciprocal exchange relationships with their followers, and “transformational leadership” in which leaders encourage followers to transcend their own self-interest for the good of society and raise themselves and followers to “higher levels of motivation and morality” (Burns 1978, p. 20). This study considers transformational leadership only because; first transformational leadership has idealized influence - the quality of the leader to act as a role model which in turn

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develop relationship and trust with the followers. Second, transformational leadership provides great source of inspirational motivation - leader shares a clear vision with the followers and provides direction for achievement. Third, transformational leadership uses intellectual stimulation - leader stimulates followers to unlearn old methods and relearn new ways of solving problems. Finally, transformational leadership uses individualized consideration frequently - leader gives personal attention to the followers (Bass, 1978).

2.3 Organizational innovation

Despite broad interest and expeditiously growing literature on innovation, there is still lack of academic consensus regarding its definition, scope, characteristics and operationalization (Garcia and Calantone, 2002). Zaltman et al., (1973, p. 10) define innovation as “any idea, practice, or material artifact perceived to be new by the relevant unit of adoption”. Organization innovation is the fundamental source of value creation and competitive advantage. Organizational innovation is often described in terms of changes in what a firm offers the world (product/service innovation) and the ways it creates and delivers those offerings (process innovation) (Francis and Bessant, 2005, Wu, 2017). Organization innovation has been usually classified according to type (Fagerberg et al., 2005; Naranjo-Gil, 2009). Schumpeter (1961) classifies innovation into five different types: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize business. Therefore this study refers to organizational innovation as a capability to develop new product or service, a new production process technology, a new structure or administration system, or a new plan or program pertaining to organizational members (Damanpour, 1991, Wu, 2017). This study also utilizes the definition of organizational innovation as formulated by the Product Development and Management Association, which describes innovation as “a new idea, method, or device. The act of creating a new product or process. The

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act includes invention as well as the work required to bring an idea or concept into final form” (Belliveau et al., 2002, p. 446). Though, numerous studies suggest organizational innovation as a way of improving organizational performance, many firms do not or cannot develop innovation properly (García-Morales et al., 2008). Scholarly community urges attention to what enables firms to innovate (García-Morales et al., 2012; Song and Yu, 2017).

2.4 Organizational performance

The management and organization researcher considers organizational performance as one of the most important constructs (Richard, Devinney, Yip, & Johnson, 2009). Performance comprises the actual output or results of an organization as measured against the intended outputs (or goals and objectives). According to Richard et al. (2009) organizational performance encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc. Performance is one type of effective indicators to measure a firm’s market share, growth and profitability. Performance determines firm’s progress toward its goals and objectives in terms of number and figure while assists firms respond to the challenges toward firms missions. Performance is measured in multiple dimensions such as financial performance (e.g. shareholder return), customer service, social responsibility (e.g. corporate citizenship, community outreach), and employee stewardship.

3. Model and research hypotheses

This study proposed seven hypotheses, and showed the research model in Figure 1. This study selects transformational leadership and discusses its effect on organizational performance, CSR, organizational innovation. Further, this study also discusses transformational leadership through two double mediation mechanism (i.e. CSR, and organizational innovation). Specific research hypotheses explore the relationships among variables in the research model.

Place Figure 1 here

3.1 Transformational leadership and organizational performance

Numerous studies analyze the direct influence of transformational leadership on organizational performance (García-Morales et al., 2008, Nguyen, Mia, Winata, & Chong, 2017; Saeidi et al., 2015), while other analyze this relationship through intervening variables such as organizational knowledge and innovation (Calisir, Gumussoy, Basak, & Gurel, 2016; García-Morales et al., 2008), human capital-enhancing human resource management (Zhu et al., 2013), and absorptive capacity (García-Morales et al., 2008).

This leadership styles such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration are key driving forces for improving organizational performance (Zhu et al., 2013). Being a role model, leaders develop relationship and trust with the followers which increase their morale to reach highest levels of achievement performance (Nguyen et al., 2017), and high level of organizational effectiveness (i.e., affective organizational commitment, organizational citizenship, and job performance) (Zhu et al., 2013). Leader shares a vision with the followers and provides direction, energy, and support for organizational achievement (García-Morales et al., 2014). Leaders stimulates their followers to unlearn old methods and relearn new ways of solving problems, creativity (Bai, Lin, & Li, 2016), and organizational learning, market orientation, organizational innovation, and firm performance (Calisir, Gumussoy, Basak, & Gurel, 2016). Leaders are powerful wellsprings of organizational rents and consequently enhanced performance through sustainable competitive advantage (García-

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Morales et al., 2014; 2008), and managerial performance (Nguyen et al., 2017). This perspective indicates that transformational leadership will bring about large amounts of attachment, responsibility, trust, motivation, and performance in these new organizational situations (Hofman and Newman, 2014; Miao et al., 2014; Zhu et al., 2013), job satisfaction (Choi, Goh, Adam, & Tan, 2016; De Clercq & Belausteguigoitia, 2017), employee engagement (Breevaart, Bakker, Hetland, Demerouti, Olsen, & Espevik, 2014), and job involvement (Sheikh, Newman, & Al Azzeh, 2013). Previous empirical studies have demonstrated that transformational leadership positively affects both individual productivity and organizational performance (Howell and Hall-Merenda, 1999). Studies have reported positive connections between transformational leadership and results at the individual level and organizational levels (Avolio, 1999; Kirkpatrick and Locke, 1996). Recently, numerous empirical studies have reported that transformational leadership positively affects follower performance and organizational results (Veríssimo and Lacerda, 2015).

Leaders' view on these key variables are pivotal to achieve organizational performance. They assume a noteworthy part in advising and embellishment these variables by deciding the sorts of conduct expected and upheld. Leaders tend to shape improved inward subjective representations and utilize these psychological models to concentrate on variables they judge to be crucial. They resolve on preferences and measure their performance in view of these variables (Rusliza Yahaya and Fawzy Ebrahim, 2016); hence we propose following hypothesis:

Hypothesis 1: Transformational leadership is positively associated with organizational performance

3.2 Transformational leadership and CSR

Past studies has proposed key transformational leaderships traits that are fundamental to CSR practices which include being visionary, inspirational, and intellectually stimulant (Angus-

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Leppan et al., 2010; McWilliams and Siegel, 2001; Pless et al., 2012; Waldman et al., 2006). This study expands on the research by moving far from tacit CSR (connected with values, standards, and rules) towards an expressive CSR (connected with corporate strategic decisions) as per the categorization by Matten and Moon (2008), as to analyze whether transformational leaders will probably harmonize CSR in their strategic choices.

In this study, we along these lines concentrate on CSR practices at the strategic level that are identified with the company's strategy, for instance, the enactment of frameworks to enhance performance, the usage of environmental administration frameworks and reporting, and the commitment to workers' personal satisfaction and group commitment. These CSR practices may produce positive results as far as corporate image and notoriety as a socially responsible organization, particularly toward institutional investors, clients, and suppliers, with subsequent beneficial outcomes in business performance, access to capital markets, and profit (Farrington et al., 2017; Martínez-Martínez et al., 2017).

CEOs of organizations with strong stakeholder values were connected with organizations that were better performers as far as present financial results and the degree to which employees showed additional exertion and made penances. Subsequently, managers who consider various stakeholders in their basic leadership may really yield better results for their organizations. Seemingly, transformational initiative is appropriate throughout today's unpredictable workplaces and organizations, where employees frequently look for a visionary leader to guide them through turbulent times, make them feel tested and in addition engaged, and move them to perform above desires and create prosocial practices while seeking after a shared objective for the entire group (Bass and Riggio, 2006). We, therefore propose the following hypothesis:

Hypothesis 2: Transformational leadership is positively associated with CSR.

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3.3 Transformational leadership and organizational innovation

Researchers advocate that transformational leadership behavior can instigate critical impacts on individual-level, group or team level, and organizational-level innovation (Wang et al., 2011). Case in point, leader's motivational besides, stimulating impact on followers, incorporates organizational citizenship behavior (OCB), employee's creative success, and employee's innovative performance (McKee et al., 2011). Furthermore, transformational leaders empower group cohesion, encourage collaboration and coordination among group individuals, and expand group performance and innovation (Bass et al., 2003).

Transformational leaders may impact innovation and performance through their effect on organizational atmospheres, strategies, and systems (Wang et al., 2011). Hence, transformational leaders may save their time for different assignments notwithstanding innovation endeavors if organizations have a solid creative environment because of transformational leadership (Podsakoff et al., 1996). By building and imparting their vision, transformational leaders can give persuasive inspiration to engage their followers to follow the vision to boost innovation (García-Morales et al., 2008, 2014). In particular, in the very associated innovation process, transformational leaders are instrumental in articulating an engaging vision of shared responsibility and commitment (Eisenbeiss et al., 2014; García-Morales et al., 2008) and collective interests to inflate followers' inherent motivation.

Research on transformational leadership demonstrates that workers will subsequently append high significance to group membership and take part in enhancing inner creation productivity for the sake of group performance (Bass and Riggio, 2006). In view of market information data and customer needs, transformational leaders are in a position to bring up various and new viewpoints as intellectual stimulus to incite their workers to receive an exploratory thought style and a creative

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and innovative style in their works (Bass, 1999). Transformational leaders additionally serve as good examples in showing offbeat and inventive practices to improve followers' innovative behaviors through glorified impression (Howell and Hall-Merenda, 1999).

Transformational leaders not just concentrate on creating, training, and coaching their followers but they additionally view followers as internal customers and adjust their individual advantages to the general organizational vision (Waldman et al., 2006). In accordance with the social exchange theory (Blau, 1964), workers will respond with more innovativeness and thoughts for innovation to respond to their leaders' individualized consideration. Subsequently, when transformational leaders can utilize their influence, give individual consideration, inspiration, and scholarly incitement to the workers, higher innovation might be produced. Transformational leaders provide great source of inspirational motivation by identifying and articulating a clear vision which provides direction for achievement of organizational innovation. Transformational leaders also stimulate followers to unlearn old techniques and learn new ways developing creativity (Bai, Lin, & Li, 2016), knowledge, learning and innovation (García-Morales et al., 2008). Thus, we hypothesize:

Hypothesis 3: Transformational leadership is positively associated with organizational innovation

3.4 The mediation effect of CSR

In literature, several models relating to CSR and profitability exist (Fama and French, 2004). In the field of sustainable finance, the concept expands to the moral and social behavior of the agents, finding CSR as a tool for general welfare and societal benefits. Zsolnai (2002) described economic agents as those whose moral psychology leads to their behavior. Price and Mueller (1986) consider organization's financial performance as the financial viability of an organization.

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Financial performance is the degree to which an organization is able to achieve its financial and economic goals (Venkatraman and Ramanujam, 1986).

The sustainable competitive advantage for organizations result from the intangible paybacks of CSR (Branco and Rodrigues, 2006; Herrera, 2015). Most of the studies on the relation between CSR and performance provide evidence that this relation is positive (McWilliams and Siegel, 2000; Orlitzky, 2008). CSR reduces business risk (Moore, 2001; Orlitzky and Benjamin, 2001). Some studies rove evidence that CSR increases the profitability (Frooman, 1997). Consequently, manifestation of CSR tender financial rewards. In sum, empirical findings are consistent with theory and provide evidence CSR leads to better corporate financial performance of organizations.

The literature suggests that CSR practices result in innovation through certain social or environmental drivers that create enabling environment, managerial capabilities for new products developments, new processes, and new markets and improved financial performance (Hart, 1995; Hull and Rothenberg, 2008; Russo and Fouts, 1997). CSR results in a social capital that prompts the innovativeness especially in small and medium businesses (Cooke and Wills, 1999). Porter and Kramer (2006) state that CSR is priority for organizations in every country as CSR brings opportunities, innovations, and competitive advantages to f organizations. The integration of CSR into a company's business practice is likely to maximize its social and financial benefits (Porter and Kramer, 2006; Schwab et al., 1999; Sun and Stuebs, 2013).

Recently, numerous CSR studies premise on Porter hypothesis which states that well-built regulations may possibly “trigger innovation” which possibly will compensate the cost implied with such regulations (Porter and VanderLinde, 1998). CSR practices steer the wheel of innovation (Husted and Allen, 2007; Maxfield, 2008; McWilliams et al., 2006; Moon and Choi, 2014). Many studies are consistent with theory and provide evidence that supports the positive relationship

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between innovation and organization's performance (e.g., Lööf and Heshmati, 2002). Innovation helps proving the business case for CSR (Maxfield, 2008). Hence, the study conjectures that innovation is interdependent variable which possibly mediates the relationship between CSR and financial performance. Accordingly,

Hypothesis 4: CSR mediates the relationship between the transformational leadership and organizational performance.

Hypothesis 5: CSR mediates the relationship between the transformational leadership and organizational innovation.

3.5 The mediation effect of organizational innovation

Transformational leaders have an intelligent vision; they give careful consideration to cultivating viable correspondence and sharing values and empowering an appropriate sphere for innovative groups (Waldman et al., 2006). They support collective procedures of organizational learning (Wang et al., 2011), reciprocity trust between organization individuals and leaders (Avolio et al., 2009; Scott and Bruce, 1994), and encouraging attitudes toward proactivity, risk and inventiveness (García-Morales et al., 2008). These components together empower a superior comprehension of the organization relationships between transformational leadership and the variables decidedly impacting organizational innovation (García-Morales et al., 2008).

Distinctive hypotheses uncover that organizational innovation is crucial for better performance (García-Morales et al., 2008). As indicated by presenting hypotheses, organizations that focus on pace of innovation pick up a more prominent piece of the overall industry, which creates high salary and high gainfulness. Vital speculations stretch that organizations that receive an innovation first can make detachment components. Since information of the innovation is not accessible to

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contenders, these components ensure net revenues, empowering the organization to increase imperative advantages. In like manner, the hypothesis of assets and abilities keeps up that the capacities, assets and advancements expected to embrace the innovation make out impersonation more troublesome and permit organizations to support their upper hands and get more noteworthy organizational performance (Irwin et al., 1998; Wang et al., 2011).

Hence, a positive connection exists between organizational innovation and organizational performance (Zaltman et al., 1973), or between various parts of organizational innovation (e.g., innovation plan or speed, adaptability) and organizational performance (Calantone et al., 2002; García-Morales et al., 2014). The innovation writing likewise incorporates different experimental studies supporting this relationship, as do different works that utilization econometric techniques to exhibit the relationship exactly (Löf and Heshmati, 2002).

The more profitable, defectively imitable and uncommon innovations are, the higher performance will be (Irwin et al., 1998). Organizations with more noteworthy innovation will accomplish a superior reaction from the earth, acquiring all the more effortlessly the capacities expected to increment OP and solidify a sustainable advantage (Calantone et al., 2002; García-Morales et al., 2014). Not advancing inventive activities and exercises will negatively affect profitability and performance (Löf and Heshmati, 2002). Innovation as a measurement of business undertaking affects performance (García-Morales et al., 2008). McWilliams and Siegel (2000) pointed out that if the innovation in organizations is statistically controlled, the positive relationship between CSR and organizations' financial performance disappears.

Furthermore, the methodology literature concludes that innovation has a tendency to have the zero-order correlation between CSR and organizations' financial performance proviso the relationship between innovation and CSR is positive instead of zero, or non-significant statistically

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(Schwab et al., 1999). Building on the notion of the business case for CSR (Carroll and Shabana, 2010; Kurucz et al., 2008), and resource based view of organization (Barney, 1991), literature provides a suggestion towards innovation as possible mediator (Sun and Stuebs, 2013; Surroca et al., 2010; Vilanova et al., 2009). To gain a competitive advantage and being profitable at a greater rate than competitors, organizations must attain capabilities that difficult to imitate (Barney, 1991), hence we propose that

H6: Organizational innovation mediates the relationship between transformational leadership and Organizational performance.

H7: Organizational innovation mediates the relationship between CSR and organizational performance.

3.6 Conceptual model

The research conceptual model and hypotheses are illustrated in Figure 1. To test proposed structural model - PLS-SEM, which is symmetrical method, is used to investigate the effect of the factors on the outcome. This is in line with most of the main stream research employing the conventional statistical tools such as multiple regression analysis shows direct effects of antecedents to organizational performance (Cuadrado-Ballesteros et al., 2017; Ganter and Hecker, 2014). Recently, scholars call for application of more pragmatic analyses, such qualitative comparative analyses, to explore complex combination of the antecedents to achieve the outcome condition (Cuadrado-Ballesteros et al., 2017; Ren et al., 2016).

This study applied fsQCA (Cuadrado-Ballesteros et al., 2017), which is an innovative asymmetrical approach, to identify the causal model (i.e., complex configuration of the antecedent) to indicate organization performance as ultimate outcome of the organizations. PLS-SEM results

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revealed sufficient antecedents, whereas fsQCA results offer the sufficient configurations for indicating the study outcome. A detailed comparison of these two approach are discussed in Olya and Altinay's (2016) study.

To this end, this study complements PLS-SEM results with fsQCA, which provide a deeper insight of the interconnected structures of the constructs and the complex nature of their interdependencies. Management scholars suggest that the analysis of configurations (e.g., fsQCA) plays a crucial role in organization and management research (Fiss, 2011). These analyses contribute to understand complex causal relationships by explaining how to attune the causal antecedents (e.g. transformational leadership, CSR, and innovation) to obtain high organizational performance. Such insights may help managers prioritize resources and capabilities based on the calculated causal recipes to improve the efficiency and effectiveness of organizational performance.

4. Methodology

4.1 Measurement

The foundations of the study design are in the literature review section. This study utilizes and adjusts scales from earlier studies in which the items and responses were measured on a seven-point Likert scale extending from 1: "completely disagree" to 7: "completely agree." All scales are formed as first-order reflective constructs except CSR. This study takes the scale of transformational leadership, innovation and performance from the literature (García-Morales et al., 2008, 2012). Research shows that perceived measures of performance can be a reasonable substitute for objective measures of performance and have a significant correlation with them (Galbreath and Shum, 2012; Venkatraman and Ramanujam, 1986). The instrument to measure CSR is operationalized as second-order construct, and is taken from Pérez and Bosque (2012). The

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instrument consists of nineteen items measuring four first-order dimensions/constructs, including customers (five items), employees (five items), shareholders & supervising boards (four items), and society (six items).

4.2 Data

The population for this study included a broad group of French organizations from various sectors—including manufacturing, consulting, finance, bank, and insurance—to ensure generalizability. This study ensured that all the sample organizations maintained similar applications and organization resources, alleviating the moderating effects of the economy and industry. This study used a convenience sampling technique and key informant methods to conduct a survey of executives including top, and middle managers of organizations.

A pilot study was administered to a convenience evaluation sample of 10 potential executives who are excluded from the final sample, to assess the content validity and other unpredictable problems related to field work (e.g. timing). Finally, after making some minor corrections, it was confirmed that all items were understandable, and respondents filled out the questionnaires successfully.

Finally, the data for this study were collected from a sample of 396 organizations in France. The sample of this study comprised of respondents in the top and middle management because they are familiar with the organizational affairs and knowledge on organizational improvement processes. The role of these individuals in the organization is to transform knowledge across organizational levels. These managers are central to CSR initiatives by rationalizing top management plans and primary value-adding process (line management) into a progressive unit.

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A careful attention was given to the translation equivalence. The authors underscored the need for careful translation equivalence of the questionnaire from English to French. Translation equivalence was established through a translation and back-translation process (Mullen, 1995). Maximum efforts are employed to reduce potential source of common method bias (Huse et al., 2011). Specifically both independent and dependent variables were placed at distance in survey, items were randomized, none of the statements imply any preferred response, and tried to minimize the length of instrument as much as possible (Spector and Brannick, 1995).

4.3 Symmetrical and asymmetrical modeling

Partial least squares structural equation modelling (PLS-SEM) was used to test the hypotheses, and the software package SmartPLS 3 software (Ringle et al., 2015) was applied to estimate the PLS-SEM model. This study employed a two-step structural equation modeling (SEM) approach to analyze and interpret the results of PLS-SEM model: (1) assessment of measurement model, and (2) testing of the structural model (Anderson and Gerbing, 1988; Hair et al., 2010; Hair et al., 2013). While PLS-SEM as a symmetrical analysis assess the sufficient net effects of predictors on the model outcome, fsQCA, which is an asymmetrical analytical approach, calculate causal configurations that explain complex conditions for achieving model outcome (Olya et al., 2018). Furthermore, fsQCA enables researchers to model causal recipes for low score of outcome (negation of organizational performance) which is unique and different than opposite mirror of the causal recipes for high score of outcome (Olya and Mehran, 2017).

This empirical study applied an asymmetrical modeling using fsQCA to understand under which conditions high and low organizational performance are formulated. Three steps of fsQCA—namely, calibration, fuzzy truth tabulations, and counterfactual analyses—based on Ragin's (2008) guideline performed to model complex configuration of transformational leadership, corporate

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social responsibility and organizational innovation leading to both high and low organizational performance. Two probabilistic measures (coverage and consistency) are used for refining all possible causal models to the sufficient and consistent recipes for indicating organizational performance. A detailed information about the fsQCA procedure and numerical examples are provided in Ragin's (2008) manual.

5. Results

5.1 Evaluation of measurement model

The results confirmed that the measurement model satisfies all general requirements. First, all the standardized factor loadings of all the first-order and second-order constructs are above the minimum value of 0.707 (Fornell and Larcker, 1981). Second, the Cronbach's alpha scores ranged between 0.81 and 0.91 while the composite reliability scores ranged between 0.86 and 0.93 which are above the recommended value of 0.70 indicating adequate construct validity. In addition, all the constructs have an AVE value above 0.50, suggesting that latent variables achieved convergent validity. Finally, this study follows three approaches to assess the discriminant validity i.e., (1) Fornell-Larcker criterion, (2) cross loading, and (3) the heterotrait-monotrait ratio of correlations (HTMT).

Place Table 1 here

The correlation matrix in Table 2 shows that for each pair of constructs, the AVE square root of each construct (see below the diagonal values in Table 2) is higher than the absolute value of their correlation (Fornell and Larcker, 1981). The results of cross loading show that all items are loaded higher on their respective constructs than on the other constructs and the cross-loading differences are much higher than the suggested threshold of 0.1 (Gefen and Straub, 2005). In all cases the HTMT values are below the threshold of 0.85 or 0.90 (see the diagonal values in Table 2). These results confirmed that the discriminant validity is present in this study.

Place Table 2 here

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5.2 Evaluation of symmetrical modeling

This study followed Hair et al.(2013) to estimate the structural model. First, the results show minimal collinearity in the structural model as all VIF values are far below the common cutoff threshold of 5 to 10 Hair et al. (2013). Second, following the rules of thumb, the R^2 values of CSR (0.29), organizational innovation (0.52) and organizational performance (0.37) exceed the minimum value of 0.10 recommended by (Falk and Miller, 1992) which is a satisfactory level of predictability as shown in Table 3.

Place Table 3 here

Third, following Hair et al., (2010), the significance levels of the path coefficients were obtained using the bootstrapping procedure (with a number of 5000 bootstrap samples and 396 bootstrap cases; using no sign changes) as shown in Table 3 (A). An analysis of path coefficients and levels of significance shows that all direct effects are significant. Therefore, H1, H2 and H3 are accepted. Fourth, the blindfolding procedure produces the Q^2 values. All Q^2 values are considerably above zero, thus providing support for the model's predictive relevance as shown in Table 3. This study followed procedure in Cepeda-Carrion et al. (2016) to test the mediation hypotheses (H4, H5, H6 and H7). Again, the bootstrapping procedure was used to t-statistics, significance level, p-values as well as 95% confidence intervals (percentile) for the mediators (Preacher and Hayes, 2008). Table 3(B) shows the results of mediation analyses. Therefore, these results support H4, H5, H6 and H7.

5.3 Evaluation of asymmetrical modeling

The fsQCA results of sufficient configurations leading to both high and low organizational performance are presented in Table 4. To achieve high level of organizational performance, two

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causal recipes are calculated (coverage: 0.920, consistency: 0.884). The first model indicates that high CSR and high transformational leadership provides a condition that lead to high organizational performance. Alternatively, the second model shows high organizational performance results from high organizational innovation. As shown in Table 4, two causal algorithms described low organization performance (coverage: 0.760, consistency: 0.755). Model 1 offers that low organizational orientation and low CSR lead to the negation of organizational performance (i.e. low organizational performance). The second model indicates that low transformational leadership results in low organizational performance.

5.4 Evaluation of predictive validity

Predictive power refers to a model's ability to generate accurate predictions of new interpretable observations, temporally (i.e., observations in a future time period) or cross-sectionally (i.e., observations that were not included in the original sample used to build the model) (Shmueli, & Koppius, 2011). The goal of predictive modeling is to predict the output value of new cases by applying the model parameters estimated from one data sample to generate predictions for individual cases outside of that sample (Shmueli, Ray, Estrada, & Chatla, 2016; Woodside, 2013). The predictive validity help to support the research model in this study, which postulates and recognizes the theoretical connections. In line with previous research (Ali, Seny Kan, & Sarstedt, 2016, Ali, Sun, & Ali, 2017; Ali, Ali, & ul Musawir, 2018; Olya & Al-ansi, 2018), this study evaluates the predictive validity by following steps in Cepeda-Carrión et al. (2016); (1) the original sample (n = 396) is randomly divided into two sub-samples, that is, a training sample (two-thirds of the total sample, n = 264), and a holdout sample (one-third of the total sample, n = 132); (2) using the training sample, the parameters in the structural model (weights and path coefficients) are estimated; (3) each sample case is standardized in the holdout sample by subtracting its mean

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and divided it by its standard deviation; (4) the construct scores for the holdout sample are calculated as linear combinations of the respective sample using the weights obtained from the training sample in step (2); (5) the construct scores for the holdout sample calculated in step (4) are standardized by subtracting each sample mean and divided it by its standard deviation; (6) for the organizational performance, the predictive scores are calculated by using the path coefficients obtained from the training sample in step (5); finally (7) considering organizational performance, the correlation between their predictive scores and construct scores is $r = 0.66$, $p < 0.01$, confirming that the proposed model in this study has acceptable predictive validity.

Place Table 4 here

6. Discussion and conclusion

The organizations need CSR and innovation to enhance their performance, as a matter of fact, in the ever changing business situations. This empirical study added to such performance transformation by demonstrating that performance depends on various and simultaneous impacts of individual and collective factors. In particular, the results strengthened each one of the research hypothesis, indicating that in the surveyed organizations, a management style of transformational leadership influences the CSR practices and simultaneously affects innovation and performance.

The transformational leadership of management impacts performance with the CSR practices; however, as it may, transformational leadership demonstrates a high and significant impact on CSR, and innovation thus indirectly influencing performance. However, leadership shows an incredibly high and significant influence on CSR, indirectly affecting firm innovation. Furthermore, our findings show a significant and positive influence of innovation on performance.

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CSR likewise ardently influences performance, however mainly does as such through organization innovation.

Our investigation underpins the theoretical arguments offered in earlier texts about the presence of a positive relationship between CSR and innovation (Porter and Kramer, 2006; Schwab et al., 1999; Sun and Stuebs, 2013). These outcomes additionally augment the significance of transformational leadership in creating innovation (Chen et al., 2012; Dess and Picken, 2001; García-Morales et al., 2012). This conclusion is particularly engaging in light of the fact that it underpins the portrayal of transformational leadership as more concerned with collective resolutions and objectives, and the era of capacities than is conventional leadership, which concentrates more on top-down choices, institutionalized procedures, and the production of goods and services as usual.

The results revealed that transformational leadership is associated with CSR. Leaders can apply transformational leadership practices to motivate followers and advance a typical vision of quality creation in the organization and to its stakeholders. Such findings provide theoretical contribution to the literature by empirical confirmation of the role leadership in defining and implementing CSR at the organization level (Waldman et al., 2006; Waldman and Siegel, 2008). We have also analyzed the mediating mechanisms governing the relationship between transformational leadership and performance.

This study both provide strong evidence for the arguments that transformational leadership can, indeed, influence CSR and performance (Waldman et al., 2006) and extend our understanding on how such a relation happens. While Waldman et al.'s (2006) study argued that CEO transformational leadership increases, the present study provide evidence of innovation effect on performance of organization. This study addressed the call of Waldman et al. (2006) to assess the

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actual effects of CEO leadership pertaining to ethics on CSR. It also bridges the gaps in the academic knowledge by investigating interactions of the CSR, leadership and OP as were highlighted by recent studies (Aguinis and Glavas, 2012; Christensen et al., 2014). This study also confirmed the functionality of stakeholder theory by accounting for the influence of manager's leadership style in the organization's CSR initiatives.

This empirical study investigated the sufficient antecedents of organizational performance using PLS-SEM (Hypotheses 1-7). This study also extends the current knowledge by calculating sufficient configurations (i.e., combinational of antecedents) leading to high and low organizational performance using asymmetrical modeling. According to fsQCA results, managers can combine transformational leadership, CRS, and OI in a ways that satisfied the conditions (i.e. causal recipes) leading to high organizational performance. Importantly, the conditions of high organizational performance is not mirror opposite of causal recipes of low organization performance. The managers must be vigilant to regulate the condition in which the combination of the antecedents are not in line with the causal recipes of organizational performance negation (see Table 4).

Transformational leadership adds to a decent internal environment for collaboration and team work among colleagues. Further, one of its primary yields ought to be the assimilation of thoughts advancing creativity and innovation and consequently advancing a transformational leadership's indirect impact on performance through innovation. At long last, the outcomes of this deliberation likewise shed extra light on innovation's certain implications for performance. These outcomes support literature expressing such constructive outcomes of innovation (Damanpour & Aravind, 2012; Irwin et al., 1998). The study outcomes demonstrate some extra and engaging parts of the

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indirect associations among innovation, and performance. As further discussed, future longitudinal works ought to aid to generalization of these findings to the other contexts.

A noteworthy implication of this study for professionals and researchers is that innovation is not straightforwardly accessible to all organizations at all times, yet just to organizations with the appropriate internal characteristics. The translation of innovation into an effective organizational performance needs a presence of conducive learning environment which is an outcome of transformational leadership. CSR program initiatives coupled with transformational leadership enable this conducive internal environment, thus aligning the innovation with the organizational goals with an enhanced organizational performance being resultant of these remedies.

6.1 Research contributions

The study findings demonstrates the significance of transformational leadership for enhancing financial performance through advancing organizational innovation and CSR. A noteworthy implication of this study for professionals and researchers is that innovation is not straightforwardly accessible to all organizations at all times, yet just to organizations with the appropriate internal characteristics. The translation of innovation into an effective organizational performance needs a presence of conducive learning environment which is an outcome of transformational leadership. CSR program initiatives coupled with transformational leadership enable this conducive internal environment, thus aligning the innovation with the organizational goals with an enhanced organizational performance being resultant of these remedies. The leadership is central to unlocking value from CSR initiatives – similar to all other corporate activities. In fact, the leadership helps to institute a culture of CSR in an organization. Responsible leadership theory broadens the notion of leadership from a traditional leader–subordinate relationship to leader–stakeholder relationships and contends that “building and cultivating ... is

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an important responsibility of leaders in an interconnected stakeholder society” (Maak and Pless

2006, p. 101).

Conventional connections between leadership and administrators ought to then be audited. It is particularly imperative for organization to comprehend the significance and idiosyncrasies of transformational leadership. To begin with, transformational leadership incorporates extremely unique consideration regarding the development of employees in the organization. Transformational leaders can focus their endeavors on values and accentuate developing a vision and inspiring followers to seek after the vision; they change or adjust systems to oblige their vision as opposed to work inside existing frameworks; and they mentor followers to apply innovation.

6.2 Managerial implications

CSR is a reality in today’s corporate world. The examples of twitter, Starbucks, Levi Strauss, and Xerox are few instances of top management and leadership taking the lead role in CSR, and innovation initiatives which in turn help increasing the financial performance. The leadership effectively ‘walk the talk’ in the performing companies with successful CSR, and innovation agendas. The findings of this study demonstrates the significance of transformational leadership for enhancing financial performance through advancing organizational innovation and CSR.

According to fsQCA results, organizational innovation merely contributed in performance of organization. It means, practitioners could increase performance by improving innovation. For example, companies can innovate in several ways such as product innovation, process innovation, and business model innovation. Such innovations can provide a condition where high performance can be achieved. Alternatively, a combination of transformational leadership and CRS provide sufficient condition to achieve high organizational performance. Managers must be aware although innovation increase performance, CRS or transformational leadership must be applied

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simultaneously to reach the ultimate goal of organization which is performance. In other words, while managers reinforce transformational leadership, they must practice and promote corporate social responsibility to attain high performance. Furthermore, the fsQCA results for negation of performance revealed that causal recipe for high performance are not the mirror opposite of causal models of low performance. For example, low transformational leadership merely led to low performance. Alternatively, low innovation and CRS results in low performance. Therefore, managers need to be vigilant to the conditions of the organization, in terms of transformational leadership, CRS, and innovation, in which do not matched with the causal recipes of low performance (Table 4).

6.3 Limitations and future research directions

This study (1) dissects the synchronous impact on organizational performance of transformational leadership and CSR; (2) demonstrates that albeit both straightforwardly impact innovation as well, the aggregate process of CSR and transformational leadership affects innovation for our model; (3) in any case, additionally demonstrates that leadership impacts CSR; and (4) accentuates the positive impact of organizational innovation on performance. Our examination shows the significance of a coordinated investigation of direct and indirect impacts of individual and organizational determinants like transformational leadership and CSR of organizational innovation and fortifies past researches on the significance of innovation for performance.

There are several limitations to this study. We looked into the likelihood of common method bias the utilizing Harman's single- factor test, and none had all the earmarks of being available (Podsakoff et al., 2003; Scott and Bruce, 1994). Despite the fact that we tried the most conceivable directions for the pathways in our model, longitudinal examination is expected to evaluate the

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heading of causality of the connections and to identify plausible complementary procedures.

Future examination ought to give careful consideration to the impact of various combinations besides transformational leadership and CSR and their effects on innovation and performance.

References

- Aguinis, H., Glavas, A., 2012. What We Know and Don't Know About Corporate Social Responsibility A Review and Research Agenda. *Journal of Management* 38, 932–968. <https://doi.org/10.1177/0149206311436079>
- Anderson, J.C., Gerbing, D.W., 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 103, 411–423. <https://doi.org/10.1037/0033-2909.103.3.411>
- Angus-Leppan, T., Metcalf, L., Benn, S., 2010. Leadership Styles and CSR Practice: An Examination of Sensemaking, Institutional Drivers and CSR Leadership. *Journal of Business Ethics* 93, 189–213.
- Avolio, B.J., Walumbwa, F.O., Weber, T.J., 2009. Leadership: Current theories, research, and future directions. *Annual review of psychology* 60, 421–449.
- Barney, J., 1991. Firm resources and sustained competitive advantage. *Journal of management* 17, 99.
- Bass, B.M., 1999. Two Decades of Research and Development in Transformational Leadership. *European Journal of Work and Organizational Psychology* 8, 9–32. <https://doi.org/10.1080/135943299398410>
- Bass, B.M., Avolio, B.J., Jung, D.I., Berson, Y., 2003. Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology* 88, 207–218. <https://doi.org/10.1037/0021-9010.88.2.207>
- Bass, B.M., Riggio, R.E., 2006. Transformational leadership. Psychology Press.
- Bernal-Conesa, J.A., Briones-Peñalver, A.J., De Nieves-Nieto, C., 2016. The integration of CSR management systems and their influence on the performance of technology companies. *European Journal of Management and Business Economics* 25, 121–132. <https://doi.org/10.1016/j.redeen.2016.07.002>
- Blau, P.M., 1964. Exchange and power in social life. Transaction Publishers.
- Branco, M.C., Rodrigues, L.L., 2006. Corporate social responsibility and resource-based perspectives. *Journal of Business Ethics* 69, 111–132.
- Brief, A.P., Weiss, H.M., 2002. Organizational behavior: Affect in the workplace. *Annual review of psychology* 53, 279–307.
- Briones Peñalver, A.J., Bernal Conesa, J.A., de Nieves Nieto, C., n.d. Analysis of Corporate Social Responsibility in Spanish Agribusiness and Its Influence on Innovation and Performance. *Corp. Soc. Responsib. Environ. Mgmt.* n/a-n/a. <https://doi.org/10.1002/csr.1448>

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Calantone, R.J., Cavusgil, S.T., Zhao, Y., 2002. Learning orientation, firm innovation capability, and firm performance. *Industrial marketing management* 31, 515–524.
- Carroll, A.B., Shabana, K.M., 2010. The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews* 12, 85–105. <https://doi.org/10.1111/j.1468-2370.2009.00275.x>
- Cepeda-Carrion, I., Leal-Millán, A.G., Martelo-Landroguez, S., Leal-Rodriguez, A.L., 2016. Absorptive capacity and value in the banking industry: A multiple mediation model. *Journal of Business Research, Designing implementable innovative realities* 69, 1644–1650. <https://doi.org/10.1016/j.jbusres.2015.10.032>
- Chen, M.Y.-C., Lin, C.Y.-Y., Lin, H.-E., Iii, E.F.M., 2012. Does transformational leadership facilitate technological innovation? The moderating roles of innovative culture and incentive compensation. *Asia Pac J Manag* 29, 239–264. <https://doi.org/10.1007/s10490-012-9285-9>
- Christensen, L.J., Mackey, A., Whetten, D., 2014. Taking Responsibility for Corporate Social Responsibility: The Role of Leaders in Creating, Implementing, Sustaining, or Avoiding Socially Responsible Firm Behaviors. *ACAD MANAGE PERSPECT* 28, 164–178. <https://doi.org/10.5465/amp.2012.0047>
- Ciulla, J.B., 2004. *Ethics, the Heart of Leadership*. Greenwood Publishing Group.
- Clarke, T., 2005. Accounting for Enron: shareholder value and stakeholder interests. *Corporate Governance: An International Review* 13, 598–612.
- Conger, J.A., Fulmer, R.M., 2003. Developing your leadership pipeline. *Harvard Business Review* 81, 76–85.
- Cooke, P., Wills, D., 1999. Small Firms, Social Capital and the Enhancement of Business Performance Through Innovation Programmes. *Small Business Economics* 13, 219–234. <https://doi.org/10.1023/A:1008178808631>
- Crépon, B., Duguet, E., Mairesse, J., 2000. Mesurer le rendement de l'innovation. *Economie et statistique* 334, 65–78.
- Cuadrado-Ballesteros, B., Martínez-Ferrero, J., García-Sánchez, I.M., 2017. Board Structure to Enhance Social Responsibility Development: A Qualitative Comparative Analysis of US Companies. *Corporate Social Responsibility and Environmental Management*. <https://doi.org/10.1002/csr.1425>
- Damanpour, F., 1991. Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal* 555–590.
- Dess, G.G., Picken, J.C., 2001. Changing roles: Leadership in the 21st century. *Organizational dynamics* 28, 18–34.
- Eisenbeiss, S.A., Knippenberg, D. van, Fahrbach, C.M., 2014. Doing Well by Doing Good? Analyzing the Relationship Between CEO Ethical Leadership and Firm Performance. *J Bus Ethics* 128, 635–651. <https://doi.org/10.1007/s10551-014-2124-9>
- Falk, R.F., Miller, N.B., 1992. *A primer for soft modeling*. University of Akron Press.
- Fama, E.F., French, K.R., 2004. The capital asset pricing model: theory and evidence. *The Journal of Economic Perspectives* 18, 25–46.

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Farrington, T., Farrington, T., Curran, R., Curran, R., Gori, K., Gori, K., O’Gorman, K.D., O’Gorman, K.D., Queenan, C.J., Queenan, C.J., 2017. Corporate social responsibility: reviewed, rated, revised. *International Journal of Contemporary Hospitality Management* 29, 30–47.
- Fiss, P.C., 2011. Building Better Causal Theories: A Fuzzy Set Approach to Typologies in Organization Research. *ACAD MANAGE J* 54, 393–420. <https://doi.org/10.5465/AMJ.2011.60263120>
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research* 39–50.
- Frooman, J., 1997. Socially irresponsible and illegal behavior and shareholder wealth. *Business & Society* 36, 221.
- Galbreath, J., Shum, P., 2012. Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from Australia. *Australian Journal of Management* 37, 211–229. <https://doi.org/10.1177/0312896211432941>
- Ganter, A., Hecker, A., 2014. Configurational paths to organizational innovation: qualitative comparative analyses of antecedents and contingencies. *Journal of Business Research* 67, 1285–1292. <https://doi.org/10.1016/j.jbusres.2013.03.004>
- García-Morales, V.J., Bolívar-Ramos, M.T., Martín-Rojas, R., 2014. Technological variables and absorptive capacity’s influence on performance through corporate entrepreneurship. *Journal of Business Research* 67, 1468–1477. <https://doi.org/10.1016/j.jbusres.2013.07.019>
- García-Morales, V.J., Jiménez-Barrionuevo, M.M., Gutiérrez-Gutiérrez, L., 2012. Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of Business Research* 65, 1040–1050. <https://doi.org/10.1016/j.jbusres.2011.03.005>
- García-Morales, V.J., Lloréns-Montes, F.J., Verdú-Jover, A.J., 2008. The Effects of Transformational Leadership on Organizational Performance through Knowledge and Innovation*. *British Journal of Management* 19, 299–319. <https://doi.org/10.1111/j.1467-8551.2007.00547.x>
- Gefen, D., Straub, D., 2005. A practical guide to factorial validity using PLS-Graph: Tutorial and annotated example. *Communications of the Association for Information systems* 16, 5.
- Geroski, P.A., Van Reenen, J., Walters, C.F., 1997. How persistently do firms innovate? *Research Policy* 26, 33–48.
- Gong, Y., Huang, J.-C., Farh, J.-L., 2009. Employee Learning Orientation, Transformational Leadership, and Employee Creativity: The Mediating Role of Employee Creative Self-Efficacy. *ACAD MANAGE J* 52, 765–778. <https://doi.org/10.5465/AMJ.2009.43670890>
- Gumusluoglu, L., Ilsev, A., 2009. Transformational leadership, creativity, and organizational innovation. *Journal of business research* 62, 461–473.
- Hair, J.F., Black, W., Babin, B.Y.A., Anderson, R.E., Tatham, R.L., 2010. *Multivariate Data Analysis. A Global Perspective*. Pearson Prentice Hall.
- Hair Jr, J.F., Hult, G.T.M., Ringle, C., Sarstedt, M., 2013. *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Hart, S.L., 1995. A Natural-Resource-Based View of the Firm. *The Academy of Management Review* 20, 986–1014. <https://doi.org/10.2307/258963>
- Herrera, M.E.B., 2015. Creating competitive advantage by institutionalizing corporate social innovation. *Journal of Business Research* 68, 1468–1474. <https://doi.org/10.1016/j.jbusres.2015.01.036>
- Hofman, P.S., Newman, A., 2014. The impact of perceived corporate social responsibility on organizational commitment and the moderating role of collectivism and masculinity: evidence from China. *The International Journal of Human Resource Management* 25, 631–652. <https://doi.org/10.1080/09585192.2013.792861>
- Howell, J.M., Hall-Merenda, K.E., 1999. The ties that bind : The impact of leader-member exchange, transformational and transactional leadership, and distance on predicting follower performance. *Journal of applied psychology* 84, 680–694.
- Hull, C.E., Rothenberg, S., 2008. Firm performance: the interactions of corporate social performance with innovation and industry differentiation. *Strategic Management Journal* 29, 781–789.
- Huse, M., Hoskisson, R., Zattoni, A., Viganò, R., 2011. New perspectives on board research: Changing the research agenda. *Journal of Management & Governance* 15, 5–28.
- Husted, B.W., Allen, D.B., 2007. Corporate Social Strategy in Multinational Enterprises: Antecedents and Value Creation. *Journal of Business Ethics* 74, 345–361.
- Inoue, Y., Funk, D.C., McDonald, H., 2017. Predicting behavioral loyalty through corporate social responsibility: The mediating role of involvement and commitment. *Journal of Business Research* 75, 46–56.
- Inoue, Y., Lee, S., 2011. Effects of different dimensions of corporate social responsibility on corporate financial performance in tourism-related industries. *Tourism Management* 32, 790–804.
- Irwin, J.G., Hoffman, J.J., Lamont, B.T., 1998. The effect of the acquisition of technological innovations on organizational performance: A resource-based view. *Journal of Engineering and Technology Management* 15, 25–54. [https://doi.org/10.1016/S0923-4748\(97\)00028-3](https://doi.org/10.1016/S0923-4748(97)00028-3)
- Jensen, M.C., 2008. Non-Rational Behaviour, Value Conflicts, Stakeholder Theory, and Firm Behaviour. *Business Ethics Quarterly* 18, 167–171.
- Jones, T.M., Wicks, A.C., 1999. Convergent stakeholder theory. *The Academy of Management Review* 24, 206–221.
- Kanter, R.M., 1983. *The change masters: Corporate entrepreneurs at work*. Taylor & Francis.
- Kurucz, E., Colbert, B., Wheeler, D., 2008. The business case for corporate social responsibility. *The Oxford handbook of corporate social responsibility* 83–112.
- Lööf, H., Heshmati, A., 2002. Knowledge capital and performance heterogeneity:: A firm-level innovation study. *International Journal of Production Economics* 76, 61–85. [https://doi.org/10.1016/S0925-5273\(01\)00147-5](https://doi.org/10.1016/S0925-5273(01)00147-5)
- Maignan, I., Ferrell, O.C., Hult, G.T.M., 1999. Corporate citizenship: cultural antecedents and business benefits. *Journal of the Academy of Marketing Science* 27, 455–469.

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Marin, L., Martín, P.J., Rubio, A., 2017. Doing Good and Different! The Mediation Effect of Innovation and Investment on the Influence of CSR on Competitiveness. *Corp. Soc. Responsib. Environ. Mgmt.* 24, 159–171. <https://doi.org/10.1002/csr.1412>
- Martínez-Martínez, D., Madueño, J.H., Jorge, M.L., Sancho, M.P.L., 2017. The strategic nature of corporate social responsibility in SMEs: a multiple mediator analysis. *Industr Mngmnt & Data Systems* 117, 2–31. <https://doi.org/10.1108/IMDS-07-2015-0315>
- Maxfield, S., 2008. Reconciling corporate citizenship and competitive strategy: Insights from economic theory. *Journal of business ethics* 80, 367–377.
- McKee, M.C., Driscoll, C., Kelloway, E.K., Kelley, E., 2011. Exploring linkages among transformational leadership, workplace spirituality and well-being in health care workers. *Journal of Management, Spirituality & Religion* 8, 233–255. <https://doi.org/10.1080/14766086.2011.599147>
- McWilliams, A., Siegel, D., 2001. Corporate social responsibility: A theory of the firm perspective. *The Academy of Management Review* 26, 117–127.
- McWilliams, A., Siegel, D., 2000. Corporate social responsibility and financial performance: correlation or misspecification? *Strategic Management Journal* 21, 603–609.
- McWilliams, A., Siegel, D.S., Wright, P.M., 2006. Corporate social responsibility: Strategic implications. *Journal of Management Studies* 43, 1–18.
- Miao, Q., Newman, A., Huang, X., 2014. The impact of participative leadership on job performance and organizational citizenship behavior: distinguishing between the mediating effects of affective and cognitive trust. *The International Journal of Human Resource Management* 25, 2796–2810. <https://doi.org/10.1080/09585192.2014.934890>
- Moon, H.K., Choi, B.K., 2014. How an organization's ethical climate contributes to customer satisfaction and financial performance: Perceived organizational innovation perspective. *European Journal of Innovation Management* 17, 85–106. <https://doi.org/10.1108/EJIM-03-2013-0020>
- Moore, G., 2001. Corporate Social and Financial Performance: An Investigation in the U.K. Supermarket Industry. *Journal of Business Ethics* 34, 299–315. <https://doi.org/10.1023/A:1012537016969>
- Mullen, E.M., 1995. Mullen scales of early learning. AGS Circle Pines, MN.
- Nahum-Shani, I., Somech, A., 2011. Leadership, OCB and individual differences: Idiocentrism and allocentrism as moderators of the relationship between transformational and transactional leadership and OCB. *The Leadership Quarterly* 22, 353–366. <https://doi.org/10.1016/j.leaqua.2011.02.010>
- Nijhof, A., Fisscher, O., Looise, J.K., 2002. Inclusive innovation: a research project on the inclusion of social responsibility. *Corp. Soc. Responsib. Environ. Mgmt* 9, 83–90. <https://doi.org/10.1002/csr.10>
- Ogbonna, E., Harris, L.C., 2000. Leadership style, organizational culture and performance: empirical evidence from UK companies. *The International Journal of Human Resource Management* 11, 766–788. <https://doi.org/10.1080/09585190050075114>

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Olya, H., & Akhshik, A., 2018. Tackling the Complexity of the Pro-environmental Behaviors of Visitors to Marine Turtle Sites. *Journal of Travel Research*, 1-20. doi: 10.1177/0047287517751676.
- Olya, H., & Al-ansi, A., 2018. Risk Assessment of Halal Products and Services: Implication for Tourism Industry. *Tourism Management* 65, 279-291.
- Olya, H.G.T., Altinay, L., 2016. Asymmetric modeling of intention to purchase tourism weather insurance and loyalty. *Journal of Business Research* 69, 2791–2800.
- Olya, H., Altinay, L., & De Vita, G., 2018. An Exploratory Study of Value Added Services. *Journal of Service Marketing* 1-20. doi: 10.1108/JSM-12-2016-0415.
- Olya, H., & Mehran, J., 2017. Modelling tourism expenditure using complexity theory. *Journal of Business Research* 75, 147-158.
- Orlitzky, M., 2008. Corporate social performance and financial performance: A research synthesis. *The Oxford handbook of corporate social responsibility* 113–134.
- Orlitzky, M., Benjamin, J.D., 2001. Corporate social performance and firm risk: A meta-analytic review. *Business & Society* 40, 369.
- Pérez, A., Bosque, I.R. del, 2012. Measuring CSR Image: Three Studies to Develop and to Validate a Reliable Measurement Tool. *J Bus Ethics* 118, 265–286. <https://doi.org/10.1007/s10551-012-1588-8>
- Pless, N.M., Maak, T., Waldman, D.A., 2012. Different approaches toward doing the right thing: Mapping the responsibility orientations of leaders. *The Academy of Management Perspectives* 26, 51–65.
- Podsakoff, P.M., MacKenzie, S.B., Bommer, W.H., 1996. Transformational Leader Behaviors and Substitutes for Leadership as Determinants of Employee Satisfaction, Commitment, Trust, and Organizational Citizenship Behaviors. *Journal of Management* 22, 259–298. <https://doi.org/10.1177/014920639602200204>
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y., Podsakoff, N.P., 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology* 88, 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Porter, M., VanderLinde, C., 1998. Green and Competitive, in: *On Competition*, Harvard Business School Publishing. Porter, ME, Boston, MA, pp. 351–375.
- Porter, M.E., Kramer, M., 2006. Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility [WWW Document]. *Harvard Business Review*. URL <https://hbr.org/2006/12/strategy-and-society-the-link-between-competitive-advantage-and-corporate-social-responsibility> (accessed 4.25.15).
- Preacher, K.J., Hayes, A.F., 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods* 40, 879–891.
- Price, J.L., Mueller, C.W., 1986. Absenteeism and turnover of hospital employees.
- Ragin, C.C., 2008. *Redesigning social inquiry: Fuzzy sets and beyond*. Wiley Online Library.

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Ren, S., Tsai, H.-T., Eisingerich, A.B., 2016. Case-based asymmetric modeling of firms with high versus low outcomes in implementing changes in direction. *Journal of Business Research* 69, 500–507. <https://doi.org/10.1016/j.jbusres.2015.05.007>
- Ringle, C.M., Wende, S., Will, A., 2015. SmartPLS 2. Hamburg: SmartPLS. Retrieved 1.
- Rusliza Yahaya, Fawzy Ebrahim, 2016. Leadership styles and organizational commitment: literature review. *Journal of Mgmt Development* 35, 190–216. <https://doi.org/10.1108/JMD-01-2015-0004>
- Russo, M.V., Fouts, P.A., 1997. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal* 534–559.
- Saeidi, S.P., Sofian, S., Saeidi, P., Saeidi, S.P., Saeidi, S.A., 2015. How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. *Journal of Business Research* 68, 341–350. <https://doi.org/10.1016/j.jbusres.2014.06.024>
- Schwab, K., Porter, M.E., Sachs, J.D., 1999. *The global competitiveness report 1999*. Oxford University Press, USA.
- Scott, S.G., Bruce, R.A., 1994. Determinants of Innovative Behavior: A Path Model of Individual Innovation in the Workplace. *ACAD MANAGE J* 37, 580–607. <https://doi.org/10.2307/256701>
- Spector, P.E., Brannick, M.T., 1995. The nature and effects of method variance in organizational research. *International Review of Industrial and Organizational Psychology* West Sussex, England: John Wiley 249.
- Sun, L., Stuebs, M., 2013. Corporate Social Responsibility and Firm Productivity: Evidence from the Chemical Industry in the United States. *Journal of Business Ethics* 118, 251–263. <https://doi.org/10.1007/s10551-012-1579-9>
- Surroca, J., Tribó, J.A., Waddock, S., 2010. Corporate responsibility and financial performance: the role of intangible resources. *Strategic Management Journal* 31, 463–490. <https://doi.org/10.1002/smj.820>
- Venkatraman, N., Ramanujam, V., 1986. Measurement of business performance in strategy research: A comparison of approaches. *Academy of management review* 801–814.
- Veríssimo, J., Lacerda, T., 2015. Does integrity matter for CSR practice in organizations? The mediating role of transformational leadership. *Business Ethics: A European Review* 24, 34–51.
- Vilanova, M., Lozano, J.M., Arenas, D., 2009. Exploring the nature of the relationship between CSR and competitiveness. *Journal of business ethics* 87, 57–69.
- Waddock, S.A., Graves, S.B., 1997. The Corporate Social Performance–Financial Performance Link. *Strat. Mgmt. J.* 18, 303–319. [https://doi.org/10.1002/\(SICI\)1097-0266\(199704\)18:4<303::AID-SMJ869>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1097-0266(199704)18:4<303::AID-SMJ869>3.0.CO;2-G)
- Waldman, D.A., Luque, M.S. de, Washburn, N., House, R.J., Adetoun, B., Barrasa, A., Bobina, M., Bodur, M., Chen, Y.-J., Debbarma, S., Dorfman, P., Dzuvichu, R.R., Evcimen, I., Fu, P., Grachev, M., Duarte, R.G., Gupta, V., Hartog, D.N.D., Hoogh, A.H.B. de, Howell, J., Jone, K.-Y., Kabasakal, H., Konrad, E., Koopman, P.L., Lang, R., Lin, C.-C., Liu, J., Martinez, B.,

- Khan, H. U. R., Ali, M., Olya, H. G., Zulqarnain, M., & Khan, Z. R. (2018). Transformational leadership, corporate social responsibility, organizational innovation, and organizational performance: Symmetrical and asymmetrical analytical approaches. *Corporate Social Responsibility and Environmental Management*, 25(6), 1270-1283. <https://doi.org/10.1002/csr.1637>.
- Munley, A.E., Papalexandris, N., Peng, T.K., Prieto, L., Quigley, N., Rajasekar, J., Rodríguez, F.G., Steyrer, J., Tanure, B., Thierry, H., Thomas, F.V.M., Berg, P.T. van den, Wilderom, C.P.M., 2006. Cultural and Leadership Predictors of Corporate Social Responsibility Values of Top Management: A GLOBE Study of 15 Countries. *Journal of International Business Studies* 37, 823–837.
- Waldman, D.A., Siegel, D., 2008. Defining the socially responsible leader. *The Leadership Quarterly* 19, 117–131. <https://doi.org/10.1016/j.leaqua.2007.12.008>
- Wang, D.H.-M., Chen, P.-H., Yu, T.H.-K., Hsiao, C.-Y., 2015. The effects of corporate social responsibility on brand equity and firm performance. *Journal of Business Research* 68, 2232–2236. <https://doi.org/10.1016/j.jbusres.2015.06.003>
- Wang, G., Oh, I.-S., Courtright, S.H., Colbert, A.E., 2011. Transformational Leadership and Performance Across Criteria and Levels: A Meta-Analytic Review of 25 Years of Research. *Group & Organization Management* 36, 223–270. <https://doi.org/10.1177/1059601111401017>
- Wiengarten, F., Lo, C.K., Lam, J.Y., 2015. How does Sustainability Leadership Affect Firm Performance? The Choices Associated with Appointing a Chief Officer of Corporate Social Responsibility. *Journal of Business Ethics* 1–17.
- Zahra, S.A., 1995. Corporate entrepreneurship and financial performance: the case of management leveraged buyouts. *Journal of Business Venturing* 10, 225–247.
- Zaltman, G., Duncan, R., Holbek, J., 1973. *Innovations and organizations*. Wiley New York.
- Zhang, X., Cao, Q., Tjosvold, D., 2011. Linking Transformational Leadership and Team Performance: A Conflict Management Approach. *Journal of Management Studies* 48, 1586–1611. <https://doi.org/10.1111/j.1467-6486.2010.00974.x>
- Zhu, W., Newman, A., Miao, Q., Hooke, A., 2013. Revisiting the mediating role of trust in transformational leadership effects: Do different types of trust make a difference? *The Leadership Quarterly* 24, 94–105. <https://doi.org/10.1016/j.leaqua.2012.08.004>
- Zsolnai, L., 2002. *Ethics in the Economy*, Handbook of Business Ethics, 3rd ed. Peter Lang - International Academic Publishers, Switzerland.

Table 1: Measurement model results

Construct	Factors	S.L	S.E	t-value ^a	C.R	α	AVE
Customers (first-order reflective)					0.92	0.89	0.69
	CUS1	0.79***	0.03	27.19			
	CUS2	0.86***	0.02	50.04			
	CUS3	0.84***	0.02	45.51			
	CUS4	0.84***	0.02	41.77			
	CUS5	0.84***	0.02	38.31			
Employees (first-order reflective)					0.94	0.92	0.75
	EMP1	0.84***	0.02	37.69			
	EMP2	0.88***	0.02	53.98			
	EMP3	0.85***	0.02	45.79			
	EMP4	0.87***	0.02	55.07			
	EMP5	0.86***	0.02	47.94			
Shareholders & supervising boards (first-order reflective)					0.87	0.81	0.64
	SHR1	0.75***	0.03	22.82			
	SHR2	0.73***	0.04	17.59			
	SHR3	0.85***	0.02	40.48			
	SHR4	0.85***	0.02	49.68			
Society (first-order reflective)					0.86	0.81	0.51
	SOC1	0.65***	0.05	14.21			
	SOC2	0.79***	0.03	29.83			
	SOC3	0.77***	0.03	26.27			
	SOC4	0.71***	0.03	20.71			
	SOC5	0.67***	0.04	15.40			
	SOC6	0.69***	0.04	16.02			
Organizational innovation (first-order reflective)					0.93	0.91	0.67
	INN1	0.83***	0.02	40.58			
	INN2	0.89***	0.01	69.69			
	INN3	0.88***	0.01	58.87			
	INN4	0.83***	0.03	32.00			
	INN5	0.85***	0.02	46.15			
Transformational leadership (first-order reflective)					0.90	0.83	0.63
	TL1	0.81***	0.03	26.29			
	TL2	0.89***	0.01	61.83			
	TL3	0.88***	0.02	58.97			
Organizational performance (first-order reflective)					0.92	0.88	0.73
	FP1	0.84***	0.03	32.30			
	FP2	0.90***	0.01	63.30			
	FP3	0.87***	0.02	41.50			
	FP4	0.82***	0.02	33.28			
CSR (second-order reflective)					0.92	0.88	0.74
Customers		0.86***	0.02	52.25			

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Employees	0.88***	0.01	75.35
Shareholders & supervising boards	0.87***	0.01	60.27
Society	0.83***	0.02	34.95

Note: S.L = Standard loadings; *** = $p < 0.001$; S.E = Standard error; a Test-statistics were obtained by 5000 Bootstrap runs; C.R = Composite reliability; α = Cronbach's Alpha; AVE = Average variance extracted.

Table 2: Mean, standard deviations, correlations and discriminant validity results

Factors	Mean	S.D	1	2	3	4
1. CSR	3.66	0.67	0.86	0.65	0.61	0.72
2. Organizational innovation	3.63	0.79	0.68**	0.82	0.74	0.62
3. Transformational leadership	3.97	0.75	0.54**	0.56**	0.79	0.72
4. Organizational performance	3.67	0.72	0.50**	0.51**	0.54**	0.85

Note: ** Correlation is significant at the 0.01 level (2-tailed); M = Mean; S.D = Standard deviation; Diagonal and italicized elements are the square roots of the AVE (average variance extracted); Below the diagonal elements are the correlations between the constructs values; Above the diagonal elements are the HTMT values.

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Table 3: Summary of direct relationship and mediating effect tests

Structural path	Path coefficient	t-value (bootstrap)	95% Confidence interval	Status	
(A) Effects on endogenous variables					
Transformational leadership → Organizational performance	0.32	5.36***	(0.20, 0.44)	H: supported	
Transformational leadership → CSR	0.54	12.88***	(0.45, 0.62)	H2: supported	
Transformational leadership → Organizational innovation	0.28	4.59***	(0.16, 0.40)	H3: supported	
CSR → Organizational innovation	0.53	10.45***	(0.43, 0.64)		
CSR → Financial performance	0.19	2.80**	(0.06, 0.32)		
Organizational innovation → Financial performance	0.20	2.92**	(0.06, 0.33)		
(B) Summary of mediating effect tests					
Effect of	Point coefficient	t-value (bootstrap)	95% BCa Confidence interval	Interpretation	Status
Transformational leadership → CSR → organizational performance	0.16	4.02***	(0.09, 0.24)	Partial mediation	H4:supported
Transformational leadership→ CSR → Organizational innovation	0.29	7.25***	(0.21, 0.37)	Partial mediation	H5:supported
Transformational leadership→ Organizational innovation → Organizational performance	0.17	4.25***	(0.10, 0.26)	Partial mediation	H6:supported
CSR → Organizational innovation → Organizational performance	0.22	4.40***	(0.12, 0.31)	Partial mediation	H7:supported
$R^2_{CSR} = 0.29$; $Q^2_{AOC} = 0.21$ $R^2_{organizational\ innovation} = 0.52$; $Q^2_{organizational\ innovation} = 0.38$ $R^2_{organizational\ performance} = 0.37$; $Q^2_{organizational\ performance} = 0.26$					

Note: * $|t| \geq 1.645$ at p 0.05 level; ** $|t| \geq 2.327$ at p 0.01 level; *** $|t| \geq 3.092$ at p 0.001 level; Sig. = Significant; ns = Not significant (based on t(4999), one-tailed test); BCa = Bias corrected confidence interval. Bootstrapping based on n = 5000 sub-samples
 R^2 = Determination coefficients; Q^2 = Predictive relevance of endogenous (omission distance=7).
Threshold for $R^2 \geq 0.25$ (weak); ≥ 0.50 (moderate); ≥ 0.75 (substantial); Threshold for $Q^2 > 0$ indicate predictive relevance.

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Table 4: The sufficient causal configurations using fsQCA

Models of high organizational performance	Raw coverage	Unique coverage	Consistency
Model: oprf = f(orn, csr, trle)			
M1: csr*trle	0.862	0.046	0.916
M2: orn	0.873	0.057	0.895
Solution coverage: 0.920			
Solution consistency: 0.884			
Models of low organizational performance	Raw coverage	Unique coverage	Consistency
Model: ~oprf = f(orn, csr, trle)			
M1: ~orn*~csr	0.672	0.115	0.804
M2: ~trle	0.645	0.088	0.825
Solution coverage: 0.760			
Solution consistency: 0.755			

Note: oprf stands for organizational performance, orn is organizational innovation, csr is corporate social responsibility, and trle is transformational leadership. ~ indicates negation.