

**Multi-Stakeholder Benefits:  
A Meta-Analysis of Different Theories**

*Running Head: Multi-Stakeholder Benefits*

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***Open Data:*** Readers can also find our correlation data from <https://github.com/GoPeaks-AI/multi-stakeholder-benefits>.

## **Multi-Stakeholder Benefits: A Meta-Analysis of Different Theories**

**Abstract:** We predict multi-stakeholder benefits as a measure for organizational performance from the perspective of important organizational stakeholders. Specifically, we identify the relative importance of theoretical antecedents that affect different dimensions of stakeholder benefits. Offering the first empirical synthesis of multi-stakeholder benefits to date, we assess the statistical explanatory power of different theories in the literature, focusing on the extent to which their suggested antecedents of organizational performance may lead to improvements in multiple dimensions of stakeholder benefits. Based on 110 empirical studies since 1990 to date concerning any two of four stakeholder groups (investors, customers, employees, and community /environment), we find no evidence for any single theory to have sufficient explanatory power in predicting benefits concerning all four stakeholder groups. Thus, we cannot reduce different mechanisms leading to multi-stakeholder benefits to a grand model or theory but need to resort to a multi-theoretical synthesis. Taking stock of the meta-analysis, we suggest future studies should fill three gaps: multiple dimensions within a stakeholder benefit, causal complexity, and inequality of stakeholder benefit creation.

**Keywords:** Organizational performance, Stakeholder benefit, Meta-analysis, Relative weight analysis

## Introduction

There is an increasing consensus among practitioners and researchers that business organizations should contribute to the creation and delivery of broad benefits to multiple stakeholders. On August 29, 2019, CEOs from 181 of the world's largest businesses—all members of The Business Roundtable—declared that the purpose of business is “to create value for all our stakeholders” (Business Roundtable, 2019). It is the first time since 1997 that this influential lobby group revised its position from *shareholder primacy* to a position closely resembling *stakeholder primacy* (Harrison et al., 2020). Further, management practitioners increasingly utilize multi-objective decision-making tools such as the sustainability balanced scorecard (Figge et al., 2002). Recently, new international guidelines have emerged to call for a pluralistic and integrated approach to measuring and reporting a company's influences on not only the economy, but also people, society, and environment, such as Materiality by Sustainability Accounting Standards Board, the Integrated Reporting <IR> Framework by the International Integrated Reporting Council, and the United Nations' 2030 Sustainable Development Goals. These initiatives call for new business models to advance multiple stakeholder benefits (e.g., investors, customers, employees, and the community/environment).

In academia, we witness a similar evolutionary trajectory on organizational goals and performance (for a recent review, see, e.g., Kotlar et al., 2018). The management literature has evolved from intense debates between shareholder primacy and stakeholder benefits in the early 2000s (Freeman et al., 2004; Jensen, 2002; Sundaram & Inkpen, 2004a, b; Walsh, 2004) to increasing endorsements for a more active role of firms in generating more broadly defined benefits for all stakeholders (Bridoux et al., 2011; Bridoux & Stoelhorst, 2016; Bridoux & Stoelhorst, 2014; Jones et al., 2016; Jones & Felps, 2013; Mitchell et al., 2016). For instance, Jones

(1995) argues that an organization can achieve significant competitive advantages when the nexus of cooperative stakeholder relationships is considered, and stakeholder interests are attended to. Phillips et al. (2003) further clarified that stakeholder interests a manager attends to should not be limited by financial outputs. More recently, Bridoux et al. (2011), as well as Bridoux and Stoelhorst (2016), argue that an organization is a venue where stakeholders with various motives come together to collectively create value. Mitchell et al. (2015), similarly, propose an accounting theory for value-creation/risk-sharing partnerships among stakeholders.

Recent developments of the stakeholder literature resort to the premise of stakeholder benefit alignment to prescribe optimal corporate performance, such as Mitchell et al. (2015)'s value-creation stakeholder accounting and Chen et al. (2021)'s multi-stakeholder agency framework. The stakeholder alignment premise seeks to minimize the trade-offs among stakeholder dimensions of benefits (Chen et al., 2021). In this study, we seek to extend the stakeholder benefit alignment premise with an analytic framework on quasi-Pareto improvements. Specifically, we analyze the relations between managerially relevant antecedents and different stakeholder benefits. We neither assume a reductionist aggregation function (cf. Barney, 2018; Garcia-Castro & Aguilera, 2015; Jones et al., 2016; Lieberman et al., 2017; Tantalo & Priem, 2016) nor require a new accounting method to be in place (cf. Mitchell et al., 2015). We rely on the predictive relations between a managerially relevant factor and multiple dimensions of stakeholder benefits. Unlike the aggregation approach, we do not reduce these dimensions into an aggregate index, but keep them separate as standalone utilities. And we develop the decision implications not from an accounting, calculative perspective, but from a correlational/predictive view.

We seek to identify what actions may be positively related to multiple stakeholder benefits, while not negatively related to the other benefits. And in cases where an action may be positively

related to some benefits but negatively related to others, we can identify who and in what benefit dimensions such harms may be made. Because these correlational/predictive relationships do not impose the assumption of commensurability, we may include both financial and non-financial benefits. For instance, an investment in a new product line (a new strategic action) may be negatively related to the next year's dividends to shareholders (economic dimension), but positively related to the job satisfaction of skilled workers (psychological dimension), user safety (physical dimension), and the quality of engagement with consumers (sociological dimension).

Our article contributes to the literature of organizational performance with a multi-dimensional perspective for measurement and management of a firm's economic and societal well-being concerning multiple stakeholders. First, unlike the existing literature on organizational performance, which typically reduces the multi-dimensionality of organizational performance by either emphasizing a salient stakeholder group as the ultimate beneficiaries (e.g., investors) or lumping multiple dimensions into an aggregate score (e.g., corporate social performance), we avoid these limitations by recognizing stakeholders as separate interest groups and seeing their interests as simultaneous ends.

Second, we provide a systematic assessment of the tradeoffs and synergies between the effects of managerially relevant factors on different stakeholder performance measures. Through a meta-analytic review, we offer the first synthesis of the empirical evidence to date on the explanatory power of different theories and their associated antecedents. We conducted a meta-analytic review based on a systematic taxonomy of organizational performance from four different stakeholders' perspectives. We are thus able to offer an evidence-based framework concerning how various factors and their underlying mechanisms may align the benefits for different stakeholders. Overall, we provide an integrated guide for navigating the statistical evidence in the existing

theories related to organizational performance as well as identifying future organizational performance research.

### **Multi-Stakeholder Perspectives of Organizational Performance**

Explaining the variation of performance is one of the most fundamental and enduring research questions in the study of firms and organizations (March & Sutton, 1997; Richard et al., 2009; Singh et al., 2016). It is often considered “the ultimate dependent variable of interest for researchers concerned with just about any area of management” (Richard et al., 2009, p. 719) and “the time test of any strategy” (Venkatraman & Ramanujam, 1987, p. 802). Despite such a centrality of organizational performance in management studies, defining and measuring organizational performance is considered continuously a highly complex task, with little agreement on its basic terminology, definition, and measurement (Ford & Schellenberg, 1982; Kanter & Brinkerhoff, 1981; Singh et al., 2016; Venkatraman & Ramanujam, 1986).

Most existing review articles on organizational performance have chosen to narrow the scope of constituencies by defining organizational performance in terms of financial performance (Carton & Hofer, 2010; Hamann et al., 2013; Hult et al., 2008; Richard et al., 2009; Singh et al., 2016; Venkatraman & Ramanujam, 1986, 1987) (See Supplementary materials S1 for a summary on how prior important reviews defined organizational performance and incorporated the multi-stakeholder perspective). However, to broaden the scope of the conceptualization of organizational performance, some researchers proposed a multi-constituency approach, which defines organizational performance (or effectiveness) as the extent to which the organization can meet various demands by specific constituencies (Connolly et al., 1980; Hitt, 1988; Mohr, 2006; Tsui, 1990; Zammuto, 1984). Richard et al. (2009) specified that measuring performance requires the consideration of the stakeholders to whom the performance is relevant. The stakeholder agency

perspective continues this approach and operationalizes organizational performance as multiple dimensions of measures that are specific to different stakeholders (e.g., investors, customers, employees, etc.) (Atkinson et al., 1997; Chen et al., 2021; Cooper, 2017; DeNisi & Smith, 2014; Harrison & Wicks, 2013; Pinto, 2019).

Consistent with the multi-constituency and stakeholder-agency views, we define *multi-stakeholder organizational performance* as *the extent to which an organization is creating and delivering multi-stakeholder benefits, which refer to economic, social, psychological, physical, and health-related well-being for all stakeholders (e.g., investors, customers, employees, and the community/environment)*. Stakeholders are defined as individuals or groups who can affect or are affected by the achievement of the organization's objectives (Freeman, 1984). Salient stakeholder groups include customers, investors, suppliers, employees, and the community/environment (Clarkson, 1995; Freeman, 1984).

Despite a growing consensus among both practitioners and researchers for a multi-dimensional conceptualization of organizational performance concerning all stakeholders, the understanding of what managerial antecedents may enhance multi-stakeholders' benefits is significantly limited by the fragmented literature and empirical efforts. Different stakeholders' benefits as outcomes are typically studied piecewise in segmented fields (e.g., societal and environmental benefits in the field of corporate social responsibility, consumers' benefits in the field of marketing, and employees' benefits in the field of human resource management), such that little is known about the trade-offs and synergies across stakeholder groups (Hahn et al., 2015).

Moreover, this segmentation results in the lack of theoretical integration to understand stakeholder benefits. Hitt (1988), for instance, suggests a significant problem to manage organizational performance concerning multiple stakeholders is its ambiguity of causes/effects

relationships between influences and performance. Rowley and Berman (2000) criticized that there is no theory in understanding why and how multi-dimensions of corporate social performance are related. Most recently, Pinto (2019) argues that existing theories for effective organizational performance management have yet to explain “how” to solve a “paradox” of potentially conflicting performance outcomes.

These reviews suggest there is a lack of a framework for multi-objective decision-making. The previous reviews on organizational performance (see Supplementary materials S1 for an overview) have been primarily focused on “what” organizational performance is, and mostly overlooked what antecedents and the underlying theoretical perspectives the managers should focus on to impact multiple dimensions of organizational performance.

We recognize that two main streams of literature in management attempt to combine multiple performance objectives on stakeholder benefits. First, the literature on corporate social responsibility (CSR) or corporate sustainability focuses on non-financial stakeholders (e.g., the local community) and the broader society when evaluating a firm’s performance. This literature often incorporates multiple stakeholders to measure a firm’s corporate social performance (CSP) (Mura et al., 2018; Wood, 2010). However, this literature often lumps together multiple stakeholder issues into an aggregate CSP index [for a review, please see Akremi et al. (2018), Chen and Delmas (2011), Griffin and Mahon (1997) as well as Orlitzky et al. (2003)]. It typically views CSP as an instrument to improving the corporate financial performance (CFP) as the end, often framed as the CSP-CFP link [see Aguinis and Glavas (2012), Searcy (2012) as well as Van Beurden and Gössling (2008)]. Thus, incommensurable interests among stakeholder groups are often overlooked. This literature has been criticized for its failure to reflect the complexity, contingency-based, and multi-dimensional nature of multi-stakeholder benefits (Griffin, 2000; Hahn et al., 2015;



Rowley & Berman, 2000; Simpson & Kohers, 2002). In addition, this literature remains unclear what managerially relevant antecedents may improve performance measures from each stakeholder's perspective.

The second stream builds on the long tradition of stakeholder agency perspective, suggesting that each stakeholder group's unique interests and objectives should be viewed as ends by themselves. In terms of whose performance objectives should be included in a corporate governance contract, Freeman (1994) argues that a stakeholder A has the option to become a part of a contract if this contract between B and C (e.g., another stakeholder and the firm) may have a negative externality (e.g., imposing a cost or harm) on A. Normative stakeholder theorists often reiterate that stakeholder benefits are not simply instruments for shareholder wealth, but end goals by themselves. For instance, Phillips et al. (2003, p. 481) state that "attention to the interests and well-being of some non-shareholders is obligatory for more than the prudential and instrumental purposes of wealth maximization of equity shareholders."

When it comes to prescribing corporate performance objectives, the stakeholder literature often focuses, at an abstract level, on procedural justice and fair (but not necessarily equal) distribution (Phillips et al., 2003). While stakeholder theory views multiple ends concerning stakeholders, it often must justify the economic rationale to convince the strategic management audience. Like the CSP literature, the stakeholder literature often offers economic justification by drawing a positive association between financial performance and stakeholder orientations [for a review, see Parmar et al. (2010) and Freeman et al. (2020)]. Moreover, lacking a framework of multiple performance objectives that may guide managerial actions, the literature "fail[s] to provide an algorithm for day-to-day managerial decision-making" (Phillips et al., 2003, p. 485).

## **Multi-Stakeholder Benefits**

The stakeholder literature often quotes Pareto optimality when discussing the promised aggregate benefits of capitalism (Donaldson, 1999; Sen, 1999). The literature has engaged the discussion related to Pareto improvements when attempting to address stakeholder tensions. The literature on stakeholder tensions has suggested four approaches: trade-offs, win-win, integration, and paradox [for reviews, see Hahn et al. (2015) and Van der Byl and Slawinski (2015)]. First, the trade-off view accepts the irreconcilability among goals and requires that a choice be made (Hahn et al., 2015). Thus, one stakeholder group's gain may be at the loss of another group. Second, the win-win approach is similar to the strict form of Pareto improvements, in which the accomplishment of satisfying one stakeholder group would help to satisfy other groups (Hahn et al., 2015).

Third, the integrative approach suggests that firms need to pursue different economic, social, and environmental goals simultaneously, and strike a balanced resolution (e.g., balanced scorecard). Such resolution may be achieved through a synthesis of multiple goals into one or through a separation that addresses different goals at different locations or at different times (Hahn et al., 2015) [for a review, see, e.g., Freeman et al. (2020)]. The stakeholder literature suggests two similar resolutions—a synergy function or a balanced distribution. Specifically, the synergy function approach (e.g., Tantalo & Priem, 2016) seeks to aggregate multiple utility functions into a single dimension, such as a weighted linear function. This is typically framed as a “total performance challenge” (Freeman et al., 2017, p. 7), which seeks to mathematically represent an aggregated measure or index of the performance of a business as a complex transformation of performance functions with respect to each stakeholder group. For instance, in a recent review, Freeman et al. (2020) suggest the need to explore a set of functions that express the total value created (TVC) by a firm as a function of customer TVC, employee TVC, supplier TVC,

community TVC, and financier TVC. To avoid incommensurability between non-financial and financial values, the empirical efforts under this aggregation approach often have to focus on the financial dimension when formulating an aggregation function (Barney, 2018; Garcia-Castro & Aguilera, 2015; Jones et al., 2016; Lieberman et al., 2017; Tantalo & Priem, 2016).

The balanced distribution approach recognizes that some stakeholders may gain benefits from distribution at the expense of other stakeholders temporarily, but such trade-offs need to be rebalanced in future distributions over the long term. In this realm, the Pareto improvement argument is sometimes extended to a Kaldor-Hicks efficiency argument (Jones & Felps, 2013), which argues that society is overall efficient even if the rebalance may not necessarily occur, as long as the loss of one group could hypothetically (not actually) be compensated by the gains from the winners (Lankoski & Smith, 2018). In these studies, the Pareto (or Kaldor-Hicks) efficiency is often discussed as a societal-level consequence, such as the overall equilibrium of social welfare (Harrison et al., 2019; Jones et al., 2016).

Finally, the paradox lens seeks to understand the underlying complexity of the conflicts and address the underlying causes (Hahn et al., 2018). Like a multi-stakeholder view of organizational performance, the paradox lens regards non-economic goals (e.g., societal and environmental impacts) as an end in themselves, not just a means to the end of economic benefits (Hahn et al., 2018). Unlike the integrative approach, the paradox lens does not require that all the conflicting goals be aggregated together into a new goal but regards all goals as separate and simultaneous demands. This is similar to the emerging stakeholder alignment view in the stakeholder literature (Chen et al., 2021; Mitchell et al., 2015). As articulated by Mitchell et al. (2015, p. 857), stakeholder benefit alignment occurs “when organizational managers make primary stakeholder A better off, they also tend to make primary stakeholders B, C, D, ...n better off.” The

alternative categories are (a) lack of stakeholder benefit alignment (a better-off A would not make B, C, D, ...n better off”, and (d) stakeholder benefit misalignment (a better-off A would make someone among B, C, D, ... n worse off.”

We draw on the emerging stakeholder alignment view in the stakeholder literature (Chen et al., 2021; Mitchell et al., 2015), rooted in the idea of quasi-Pareto improvements (Basu, 2015; Fleurbaey & Schokkaert, 2013; Stavins et al., 2003). Specifically, the stakeholder alignment view builds on and augments the gist of Pareto improvements into the context of multiple stakeholder groups. First, while the current literature of Pareto improvements focuses on the division of a single benefit (e.g., income) among parties (e.g., taxation and transfer), we focus on stakeholder benefit alignment – defined as how actions may positively affect the benefits for multiple stakeholder groups. Although originally proposed for optimal resource allocation to satisfy different individual utility functions (e.g., Arrow, 1974), the work on Pareto improvements in the business literature has mostly focused on the distribution within a single-benefit dimension, primarily profits (e.g., McDaniel, 1991). Often, decision-making across multiple competing dimensions of benefits is “lacking a means of making principled trade-offs” (Jones et al., 2016: 221) or subject to “no principled criterion” (Jensen, 2002: 242). Quasi-Pareto improvements across economic and non-economic dimensions are possible when managers minimize having to make such trade-offs constantly (Jones & Felps, 2013: 359). We assume that Pareto improvements of stakeholder well-being occur *when managers ensure that an action taken will generate benefits for a stakeholder group while harming no other groups.*

Second, stakeholder benefit alignment cannot be judged by every single delivery of stakeholder benefit, but through *repeated relationships between the firm and stakeholder groups.* The framework of quasi-Pareto improvements does not assume that firms will never make trade-

offs between stakeholders in practice. Instead, we judge the quasi-Pareto improvements based on multiple observed relationships between an action and the benefits to multiple stakeholders. Statistically, we need to observe a sufficiently large number of such relationships to obtain the sign of the correlation between an action and the benefits of multiple stakeholder groups. While we accept that an action may increase or decrease the benefits of a stakeholder group at a particular point in time, such actions should generate positive or nonnegative effects to the benefits of multiple stakeholder groups over time.

Finally, Pareto improvements may be unrealistic among all individuals but are possible to occur between coalition groups of individuals. To make quasi-Pareto improvements applicable in practice, *we must assume that expectations of individual members can be abstracted into a shared benefit to justify the grouping of stakeholders, accepting the heterogeneity among members within each group.* Under quasi-Pareto improvements, we do not impose the unrealistic condition that every individual member of the group is better off at all times. This is consistent with some economists' argument that Pareto social improvements should be examined by looking at transfers between income groups rather than between individuals (Ng, 1984).

Now we follow this stakeholder benefit alignment view to suggest how managers should optimize decisions concerning multiple stakeholder benefits. We focus on the impacts of managerially relevant antecedents (predictors) on benefits delivered to multiple stakeholder groups (outcomes). Managers striving to satisfy multiple stakeholders should identify antecedents that may create quasi-Pareto improvements. As the bottom line of quasi-Pareto improvements, managers should focus on antecedents that have a positive effect on the shared benefit of at least one stakeholder group and, at the same time, nonnegative effects on other stakeholder groups. Managers concerned about multiple stakeholder groups should aspire for a strong alignment of

multiple stakeholder benefits (Jones & Felps, 2013). That is, they should focus on managerially relevant antecedents that positively affect the benefits to multiple stakeholder groups while generating no harm for the other stakeholder groups.

### **Meta-Analysis**

We seek to synthesize the empirical evidence to date to explore the antecedents and their underlying theoretical logics that may satisfy the framework of quasi-Pareto improvements. Prior empirical literature has focused on salient groups of stakeholders that have the capacity to exercise direct pressure over the firms to attend their claims. The literature typically suggests that salient stakeholder groups include customers, investors, suppliers, employees, and the community/environment (Clarkson, 1995; Freeman, 1984). Prior work recognizes that customers and investors are primary stakeholder groups (Agle et al., 1999; Mitchell et al., 1997) since they represent fundamental productive and revenue resources for a firm to exist. However, secondary stakeholder groups such as suppliers (Banerjee, 2008; Eskerod & Vaagaasar, 2014), employees (Bae et al., 2011; Gambeta et al., 2019), and the community/environment (Driscoll & Starik, 2004; Dunham et al., 2006) have become essential stakeholders groups over time since they provide critical resources for the firm to operate (e.g., suppliers, employees) (Chadwick & Dabu, 2009) and the needed social legitimacy (e.g., community/environment) (Gifford et al., 2010).

Consistently with the above literature, we employ a meta-analytic approach and focus on empirical studies that have covered multiple stakeholder groups of investors, customers, employees, and the community/environment. While the first three stakeholders self-evidently represent specific groups, “the community/environment” may represent public stakeholders more generally, including the local community, the natural environment, and the general public. We included employees as suppliers of labor, but we have not included suppliers of other types of

resources in our article, because little research has empirically measured organizational performance specifically from the perspective of these stakeholders.

#### *Developing a Taxonomy of Shared Benefits by Stakeholder Group*

Again, it is important to highlight that our method does not aggregate multiple dimensions into a ‘unified and quasi-independent’ or ‘standardized’ dimension of welfare. On the contrary, we keep different stakeholders separated in our empirics. Since the empirical literature offers multiple measurements to conceptualize each stakeholder group (e.g., stock market- and accounting-based performance measurements for investors benefits), we treated the stakeholder groups as a latent multidimensional construct, implicitly assuming that the various dimensions of each stakeholder group are correlated, yet incomplete representations of overall performance (Miller et al., 2013). This approach of drawing correlations between outcome measures to measure alignment among them is a standard practice in recent meta-analyses in elite journals (Bergh et al., 2016; Berrone et al., 2020; Chen et al., 2021; Karna et al., 2016).

While existing works in organizational performance have reached little consensus on the definition of shared benefit for each stakeholder group, there is a general agreement that any organizational performance construct should consist of multiple dimensions. For instance, although focusing on financial performance, existing reviews suggest we should distinguish accounting- and stock market-performance (Hamann et al., 2013), as well as balance the subjective and objective measurements (Singh et al., 2016). Hubbard (2009) further suggests that organizational performance should be conceptualized to incorporate a balanced scorecard involving multiple financial, operational, social/environmental, and sustainability measures.

Thus, we construct a multi-dimensional taxonomy of shared benefit for each stakeholder group (Miller et al., 2013). First, we define *investor benefits* as *organizational performance*

*concerning investors (e.g., shareholders) or, more specifically, the economic outcome of the firm, which benefits investors.* We distinguish financial performance based on its factual basis, time horizon, as well as subjectivity. Specifically, to capture the factual basis of past performance and future expectations, we first distinguish (a) accounting-based performance (e.g., return on assets, profitability, labor productivity, asset efficiency) and (b) stock market performance (e.g., net income over the market value of equity, Tobin's q, market-to-book value). To capture an organization's long-term viability that is not often captured by accounting or stock market measures, we then include (c) growth of the firm (e.g., sales growth, profit growth). To capture subjectively measured performance, we further include (d) survey-based satisfaction for financial positions of the firm (e.g., a manager's reporting, and an expert's assessment).

Second, we define *customer benefits* as *organizational performance for customers or, more specifically, the benefit and the utility of products/services the firm creates for and delivers to customers.* From a marketing perspective, performance is the extent to which an organization has satisfied its customers (Neely, 1999; Neely et al., 1995). We include four different aspects of customers' perspectives: (a) customer commitment (e.g., customer loyalty, customer retention), (b) customer satisfaction (e.g., satisfaction with product/service quality), (c) customer recognition of the firm (e.g., public reputation), and (d) objectively measured product/service quality (e.g., new product innovation, product safety).

Third, we define *employee benefits* as *organizational performance for employees or, more specifically, the benefits and welfare employees receive from an organization.* Following Clarkson (1995), we include (a) employee commitment (e.g., turnover, organizational commitment), (b) employee satisfaction (e.g., job satisfaction, perceived justice), (c) employee compensation, protection, and benefits (e.g., compensation, job security), and (d) employee health (e.g., job



burnout, physical health indicators).

Lastly, we define *community/environment benefits* as *organizational performance for the community/environment or, more specifically, an organization's efforts and impacts on addressing societal, environmental, and public concerns*. Community/environment benefits can be distinguished into five subcategories including (a) symbolic measures of social concerns (e.g., societal mission statement, meeting agenda on societal issues), (b) substantive impact on the community (e.g., donation and philanthropy), (c) symbolic measures of environmental concerns (e.g., environmental mission statement, meeting agenda on environmental issues), (d) substantive impact on the natural environment (e.g., pollution control, waste disposal); and (e) combined index (e.g., the quality of social and environmental reporting).

We want to note that our grouping of stakeholder benefits is neither exhaustive nor entirely mutually exclusive. Instead, each set of stakeholder benefits includes indicators that representative members of each stakeholder group may use to evaluate the state of their well-being as a result of an organization's activities. We also admit that there are alternative ways to classify organizational performance based on "what" dimensions are concerning different stakeholders, such as the corporate sustainability (e.g., ESG) approach, the UN sustainable development goals, and the balanced scorecard approach. Our approach may apply to these approaches by defining a multi-dimensional performance framework and identify factors that are predictive of multiple performance outcomes.

Table 1 shows a taxonomy of organizational performance by stakeholder groups. In this taxonomy, we created two dummy variables for each performance construct/variable to indicate: (a) stakeholder group; and (b) subcategory within each group.

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### *Data Collection*

We follow the above taxonomy to define the boundary of our literature search. Based on the ISI Web of Science database of publications in 1990-2019, we first downloaded and read all empirical publications (excluding meta-analysis), of which *at least* one keyword is directly suggesting a stakeholder group. The keywords we used were: *stakeholder\**, *investor\**, *shareholder\**, *owner\**, and *financ\** for investors; *customer\**, *consumer\**, and *user\** for consumers; *employee\**, *worker\**, *workforce\**, *labor\**, *labour\**, and *human resource\** for employees; and *communit\**, *societ\**, *environment\**, *climate\**, *natural resource\**, *responsib\**, and *social performance\** for the community/environment. We adopted a snowball approach, in which each newly found performance construct will be added as a new keyword for the next search until no new construct was found. The results suggest that there is a massive volume of empirical studies in ISI database that met our keywords (>8,000 publications).

Given the focus of this research, we then focus on a sample of primary studies that have included organizational performance in *at least* two stakeholder groups. That is, the correlation of each primary study should cover a measure in one stakeholder group, and a different measure in another stakeholder group in our taxonomy. Next, to mitigate the “file drawer” bias, we also sought unpublished studies, including work papers, dissertations, and conference papers, using the same pool of keywords. We did so in ProQuest Dissertations and Theses, and Google Scholar. We removed duplicates if an unpublished paper was an earlier version of a publication that was already included in our sample. With the pool of papers collected above, we further shortlisted empirical papers that included performance measures concerning *at least two* essential stakeholder groups. We followed the taxonomy in Table 1 to make a judgment on whether a performance measure was

relevant. We labeled a measure as organizational performance only if we can classify it into the stakeholder taxonomy in Table 1. For instance, “organizational innovation” was not included because it was unclear which stakeholders will be the direct beneficiaries of it, but “new product innovation” was included as a construct for customer benefits.

Because each primary study included two stakeholder groups for measuring organizational performance, we can extract data for the correlations between a factor and at least two stakeholder benefits. For instance, we collected evidence from the same data sample for whether product differentiation prescribed by the theory of the competitive advantage (Porter, 1990) may predict both customer satisfaction and investment returns. The primary studies in our final sample included 109 journal articles and one unpublished doctoral thesis. The most represented outlets ( $\geq 5$  papers) are *Academy of Management Journal* (22 papers), *Journal of Management* (10), *Journal of Business Ethics* (7), and *Strategic Management Journal* (7), *International Journal of Human Resource Management* (6), and *Personnel Psychology* (5). The vast majority (about 83%) of papers were published after 2000 (see Supplementary materials S2 for the full references).

The final sample includes 2,051 antecedent-organizational performance correlations from 110 primary studies, including 692 for *investor benefits*, 375 for *customer benefits*, 676 for *employee benefits*, and 308 for *community/environment benefits*. Collectively, they represent 187,340 observations (or 148,938 organizations) during 1976-2011 worldwide. Sample countries/economies of origin include Australia (1 paper), Canada (5), mainland China (6), Denmark (1), Finland (1), Hong Kong (1), India (2), Israel (3), Italy (1), Japan (2), South Korea (5), Malaysia (2), The Netherlands (1), Philippines (1), Spain (3), Sweden (1), Taiwan (3), United Arab Emirates (2), UK (5), US (37), Vietnam (1), as well as mixed (27).

## *Coding*

To identify antecedents of multiple stakeholder benefits, we further extracted and coded hypothesized independent variables. If any organizational performance construct was hypothesized explicitly as a dependent variable, we further identified the construct of the antecedent. Some papers did not follow a deductive hypothesis-testing style, for which we defined a hypothesis broadly as a causal (e.g., “if ...then...”) assertion that was concluded after some deliberate logic discussions were provided (*at least* one paragraph). These discussions could be part of the theory development before empirical analysis, and/or result from interpretations after the empirical analysis. We collected the following information for each antecedent-performance relationship: antecedent construct, antecedent construct description, antecedent variable, antecedent variable description, the antecedent sample mean, the antecedent sample standard deviation, performance construct, performance construct description, performance variable, performance variable description, performance sample mean, performance sample standard deviation, and the correlation between this antecedent and this performance. To ensure the validity of coding, each coding was conducted independently by three different researchers (two co-authors and a Ph.D. student). An agreement of 85% was achieved, and any disagreements were resolved through direct discussions.

We organized all extracted antecedents into a three-level taxonomic hierarchy, including antecedent categories, antecedent constructs, and antecedent variables (i.e., measures). We have followed the National Information Standards Organization (2010) guidelines to denote preferred terms, manage ambiguity, control synonyms, and build hierarchical relationships. The final taxonomy is listed in Supplementary materials S3a. In cases where a performance measure was negatively defined (that is, the higher the value, the lower the performance, e.g., carbon emission,

product defects), we reversed the sign of the correlation. We also made sure the measures for antecedents in the same group were measured in the same direction. If not, we further reversed the sign of a correlation (e.g., irresponsible managerial behaviors vs. ethical leadership).

We rely on the underlying theoretical perspectives to guide our coding of antecedent-outcome relationships. While correlations indicate predictions, social scientists rely on theoretical logic to make causal inferences on the underlying mechanisms between an antecedent and an outcome (Shmueli, 2010). We carefully read the logic discussions leading to the hypothesis or a causal assertion to identify which theory (or theories) this hypothesized antecedent-outcome relationship was built upon. We coded this information to causally interpret each relationship between an antecedent and an organizational performance outcome. A sample coding of an antecedent-performance relationship is illustrated in Supplementary materials S3b.

In most cases, a theory was explicitly identified by the authors in their logic discussions or can be identified based on the citations of seminal works in the argument leading to a hypothesis. If an argument seems to relate to multiple theories, we duplicated this correlation and assigned each theory to each duplication. If the argument underlying a hypothesis was unclear to which theory it may belong, we left the theory label blank for this correlation. Because each paper has performance measures concerning multiple stakeholder groups, we also extracted correlations between each antecedent and all other performance measures (even if they were not theoretically discussed in any hypotheses). For these correlations without hypotheses, we also left the theory label blank.

We then continued to identify replications of theorized correlations *across* papers. We focused on correlations between the same antecedent construct and the same group of stakeholder benefits (investors, customers, employees, and the community/environment). Specifically, the

coding algorithm was: (1) If the coding in a paper was a different theory (excluding blanks) from another paper, we duplicated the correlation in both papers and included both theories as separate observations; (2) If the theory label in a paper was blank but a theory in another paper, we filled the blank with this theory. As an example, in our sample, Lam and White (1998) included *industry concentration* as a control variable for financial performance, without hypothesis development or deliberate interpretations. The theory label for this relationship was thus initially left blank. But later, we found that the effect of *industry concentration* on *financial performance* was discussed by Wiersema and Bantel (1993) in their hypothesis development following the logic of contingency theory (organizational-environmental fit). We thus filled the theory label for Lam and White (1998) with “*Contingency theory*.” In this way, we were able to fill a significant portion of the blanks of theory labels. Any remaining correlations without a theory label were re-labeled as “*Untheorized*” ( $k=474$ ).

To avoid duplicating theories that are named differently, we carefully examined the theory development in its disciplinary roots, basic assumptions, and the seminal works it was built upon, based on which we grouped all correlations into 18 families of theories. Based on  $k$ , the five most represented theory logics ( $k>100$ ) are *Resource-Based View* ( $k=523$ ), *Strategic HRM Configurational View* ( $k=208$ ), *Institutional Theory* ( $k=179$ ), *Competitive Advantages Theory* ( $k=137$ ), and *Social Exchange Theory* ( $k=101$ ). The other theories that studies engaged to develop hypotheses are *Stakeholder Theory* ( $k=95$ ), *Agency Theory* ( $k=58$ ), *Cultural Values Framework* ( $k=55$ ), *Total Quality Management (TQM) Theory* ( $k=47$ ), *Signaling Theory* ( $k=40$ ), *Motivation Theories* ( $k=33$ ), *Work-Life HRM Theories* ( $k=33$ ), *Contingency Theory* ( $k=27$ ), *Dynamic Capabilities Theory* ( $k=19$ ), *Social-Technical Systems Theory* ( $k=7$ ), *Power Circulation Theory* ( $k=6$ ), *Social Capital Theory* ( $k=5$ ), and *Resource Dependence Theory* ( $k=4$ ). Besides, there is a

significant portion of “*Untheorized*” relationships in our sample ( $k=474$ ).

We separate these families of theories because they are developed relatively independently from different seminal works. For space limit, we have omitted reviews for these theories but included them in supplementary materials S4. We note that some theories may be more related than the others as they originate from the same disciplinary foundations and thus may develop their hypotheses on how antecedents affect organizational performance based on similar behavioral assumptions. For instance, *Resource-Based View*, *Competitive Advantages Theory*, *Agency Theory*, *Signaling Theory*, and *Dynamic Capabilities Theory* all derived from economic foundations, assuming bounded economic rationality. Whereas, *Institutional Theory*, *Social Exchange Theory*, *Work-Life HRM Theories*, *Contingency Theory*, *Social-Technical Systems Theory*, *Power Circulation Theory*, *Social Capital Theory*, and *Resource Dependence Theory* are developed out of sociology (organizational theory), which assumes bounded normative rationality and emphasizes the importance of social legitimacy, conformity, and relationships. The coding results suggest that antecedents and theories have a “many-to-many” relationship. That is, the same antecedent-performance relationship may be hypothesized by different theories in different disciplines (mostly in different papers).

#### *Estimation Strategy*

We conducted a Hedges-Olkin meta-analysis (HOMA) (Hedges & Olkin, 2014) to compute the mean correlation ( $r$ ) using Wilson’s meta-analysis macros for SPSS (Neville et al., 2019). HOMA is a suitable meta-analytic procedure for samples based on independently verifiable economic data such as ours (Duran et al., 2016). Our focal correlation is the Pearson product-moment mean correlation ( $r$ ) between antecedents and performance, which is a commonly reported correlation in management (Geyskens et al., 2009). To maximize accuracy, we weighted the correlations by

their inverse variance weight ( $w$ ) (Hedges & Olkin, 2014), which also allows us to obtain the standard error of the mean  $r$  and its confidence interval. To account for the potential heterogeneity of correlation distributions, we ran random-effects HOMA (Kisamore & Brannick, 2008; Raudenbush & Bryk, 2002). Random-effects HOMA results are a more conservative measure than fixed-effects HOMA and allow us to make inferences beyond the studies included in the sample (Lipsey & Wilson, 2001).

We are interested in understanding the relative explanatory power of each particular antecedent category or theory logic compared to other alternative antecedent categories or theory logic. For this purpose, we also conducted a relative weight analysis (RWA) (Johnson, 2004) to estimate and rank the proportional contribution of each antecedent category or theory logic to the overall correlations (Tonidandel & LeBreton, 2011, 2015). The proportional contribution is the relative weight ( $RW$ ), suggesting a variable's importance in predicting the variation of organizational performance in each group of stakeholder benefits in the sample, relative to other alternative variables. We compute RWA using Tonidandel and LeBreton (2015)'s RWA-Web program. We obtained the 95% confidence intervals for the relative weights and significance tests based on bootstrapping with 10,000 replications. Finally, we rescaled  $RW$  based on a total scale of 100%.

### *Result Analysis*

We report in Table 2 meta-analytic findings on the mean correlations and relative explanatory power of each theory as well as the antecedents that draw on it. Detailed results by subcategories of stakeholder benefits suggest a strong internal coherence of shared benefits within the same stakeholder group. That is, within each stakeholder group, no single antecedent or theory has statistically significant and positive relationships with one subcategory and statistically significant



and negative relationships with another subcategory (see S5 Tables 1, 2, 3, and 4 for detailed results by subcategories of stakeholder benefits).

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INSERT FIGURE 1 AND TABLE 2 ABOUT HERE  
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We define a mean correlation of  $|r| \geq 0.1$  ( $p < 0.05$ ) as the minimum acceptable level of significant explanatory power. We suggest that findings from a sufficient number of replications ( $k$ ) to run RWA are relatively replicable. We suggest that a *rescaled*  $RW \geq 10\%$  is relatively important. A visualization of all meta-analytic findings, highlighting their statistical significance ( $|r| \geq 0.1$ ;  $p < 0.05$ ) and relative importance (*rescaled*  $RW \geq 10\%$ ), can be found in Figure 1. We also tested for the possibility that either difficult-to-find studies or excluding studies published after we ended up collecting our sample data might bias our results (Samba et al., 2018). We inputted Rosenthal (1979)'s fail-safe  $N$ , which estimates the number of additional studies that should be included in our meta-analysis to turn a significant  $r$  into the point of non-significance. Supplementary materials S1 Table 5 indicates that our results do not suffer from sampling bias (Lipsey & Wilson, 2001). Below, we discuss and visualize three subsets of the meta-analytic findings that satisfy different aspiration levels of decision-making under quasi-Pareto improvements.

*At least two stakeholder groups are better off, and no other groups are worse off.* As discussed, managers concerned with multiple stakeholder benefits should aspire to generate benefits for at least two stakeholder groups, while harming no others. S5 Figure 1A presents statistically significant ( $|r| \geq 0.1$ ;  $p < 0.05$ ) findings that antecedents associated with each theory are positively correlated with at least two stakeholder benefits and, at the same time, non-negatively or insignificantly related to other stakeholder benefits. We also highlight findings based on their

relative importance (*rescaled RW*). Among theories that show statistically significant ( $|r| \geq 0.1$ ;  $p < 0.05$ ) findings of their antecedents in multiple groups of stakeholder benefits, four theories are relatively important (*rescaled RW*  $\geq 10\%$ ). They are *Competitive Advantages Theory* on the customer- and community/environment benefits, *Stakeholder Theory* on customer-, employee-, and community/environment benefits, *TQM Theory* on the customer- and employee benefits, and *Strategic HRM Configurations View* on the employee- and investor benefits.

Specifically, several groups of antecedents associated with these theories show statistically significant ( $|r| \geq 0.1$ ;  $p < 0.05$ ) and relatively important (*rescaled RW*  $\geq 10\%$ ) findings for multiple stakeholder benefits: *intra-organizational relations* on the employee- and investor benefits; *resources, skills, and experience* on the customer- and community/environment benefits; and *HRM policies* on the customer- and employee benefits. Besides, *resources, skills, and experience* can also significantly explain employee- and investor benefits ( $|r| \geq 0.1$ ;  $p < 0.05$ ) with sufficient replications but relatively low importance (*rescaled RW*  $< 10\%$ ). *HRM policies* appear to significantly predict community- and investor benefits with sufficient replications, but relatively low importance (*rescaled RW*  $< 10\%$ ).

Besides, some of these theories can significantly explain *at least* another group of stakeholder benefits ( $|r| \geq 0.1$ ;  $p < 0.05$ ) with sufficient replications but relatively low importance (*rescaled RW*  $< 10\%$ ), such as *competitive advantages* and *TQM theories* on investor benefits, as well as *strategic HRM configurational view* on customer benefits.

***At least two stakeholder groups (including investors) are better off, and no other groups are worse off.*** S5 Figure 1B presents statistically significant ( $|r| \geq 0.1$ ;  $p < 0.05$ ) findings that antecedents associated with each theory are positively related to at least two stakeholder benefits, one of which is investor benefit, and is non-negatively or insignificantly related to other

stakeholder benefits. Because this is a more rigid condition than the previous findings, only a subset of findings remains valid. In terms of theoretical logic, only the *Strategic HRM Configurations View* is statistically significant and sufficiently important (*rescaled RW*  $\geq 10\%$ ) to explain both investor- and non-investor (i.e., employee) stakeholder benefits. Specifically, only *intra-organizational relations* appear to be a statistically significant and relatively important antecedent of both investor benefits and non-investor benefits (*employee benefits*).

***All stakeholder groups are better off.*** S5 Figure 1C presents statistically significant ( $|r| \geq 0.1$ ;  $p < 0.05$ ) findings that antecedents associated with a theory are positively related to all four groups of stakeholders. Our results show no evidence for any single theory whose antecedents have sufficiently important (*rescaled RW*  $\geq 10\%$ ) explanatory power of all four groups of stakeholder benefits. *TQM Theory* appears to have statistically significant explanations in all stakeholder benefits. However, its relative importance appears to be insufficient in *investor benefits* and remains insufficiently replicated on *community/environment benefits*. In terms of antecedents, *intra-organizational relations* have the potential to be an important category of antecedents to all stakeholder benefits, but more replications are needed in the future on their explanations in *customer-* and *community/environment benefits*.

## **Discussion**

This article explores a multi-stakeholder benefit framework to explain the tradeoffs and synergies among antecedents' effects on different stakeholder dimensions of organizational performance. Our meta-analysis offers the first synthesis of the available evidence on the antecedents of organizational performance concerning four stakeholder groups (investors, customers, employees, and the community/environment).

### *Research Contributions*

Our study aims to make two contributions to the organizational performance literature. First, our meta-analysis provides a comprehensive framework of organizational performance that avoids reducing the multi-dimensionality of organizational performance. Traditional economic models consider the surpluses produced by consumers and producers, leading to an unnecessarily narrow definition of organizational performance from the perspective of only two stakeholders. Our study considers the value generated for and appropriated by a larger set of organizationally relevant stakeholders (e.g., investors, customers, employees, and the community/environment).

Our broader focus adds to recent calls in the resource-based view (RBV) literature to include a broader set of stakeholders into the category of residual claimants (Barney, 2018). Employee stakeholders, for instance, frequently invest in firm-specific skills and knowledge (Blair & Stout, 1999), which allows firms to generate economic profits and employees to bargain for a larger share of the profit pie (Coff, 1999). We illustrate in our research that stakeholder benefits of a broad range of organizational stakeholders can be explained with established academic theories. For instance, our finding that antecedents associated with “competitive advantages” theory benefit “community/environment” stakeholders may suggest that communities are able to extract stakeholder benefits from firms for making community-specific resources available to firms. This finding is also consistent with the idea that firms may consider “community/environment” stakeholders as residual claimants whose claims on the firm’s profits are difficult to specify completely ex-ante.

Second, our study provides a guiding framework to explore optimal antecedents of organizational performance. Specifically, we have established empirical evidence of the managerially relevant antecedents to advance the interests of multiple stakeholders. This empirical

evidence may be particularly relevant for practitioners and academics alike. For academics, our synthesis helps to identify effective theoretical perspectives for a given set of organizational performance outcomes. This may help researchers explore antecedents of stakeholder benefits that are underexplored. In addition, rather than duplicating the efforts of literature reviews of existing organizational performance theories and findings, researchers may focus on a list of performance indicators in our findings, which will lead to evidence as to what theories and antecedents are the best predictors of organizational performance, as well as what theories and antecedents are under-tested given a small sample of primary studies.

#### *Future Research Opportunities*

We suggest there are several ways in which future research may benefit from our work. First, future research may examine the *multi-dimensionality within the same stakeholder benefit*. Members of each stakeholder group may simultaneously consider multiple distinct and potentially conflicting forms of well-being when evaluating their relationships with the firm. Investors, for instance, may be willing to accept a lower stock market return (an investor stakeholder benefit) for more aggressive market growth (another investor stakeholder benefit). Employees may tradeoff compensation for reduced work stress. While our meta-analytic findings offer evidence for consistency (i.e., no significant and opposing findings) across subcategories of performance measures *within* the same stakeholder group, a closer look suggests some evidence for opposing findings that are insufficiently replicated to draw statistical significance. For instance, as S5 Table 1 reports, a firm's possession of *resources, skills, and experience* has a sufficiently replicated ( $k=44$ ), statistically significant, and positive effect ( $0.18, p<0.05$ ) on employee compensation, protection, and benefits, but appear to harm employee satisfaction ( $-0.05, p>0.05$ ). This negative finding is statistically insignificant based on only one study ( $k=1$ ). These potential opposing

findings need to be tested in replications and explained in a theory of stakeholder benefit tradeoffs. Thus, to complete the multi-stakeholder benefit framework, we not only need to analyze the tradeoffs and synergies across stakeholder groups but should also probe into the benefit dimensions within the same stakeholder group.

Second, future research may examine *the complexity of the causes-and-effects relationships among antecedents and stakeholder benefits*. Our meta-analysis is based on simplified correlational theorizing, revealing the net effects of an antecedent assuming other antecedents being independent or constant. While this approach dominates the ways of theorizing in the literature on organizational performance, it has been criticized for its overlooking of causal complexity (Chen & Hitt, 2019; Furnari et al., 2021). A complete multi-stakeholder benefit framework requires configurational theorizing that accounts for multifaceted interdependencies among antecedents (e.g., interactive causal effects), which may explain why and how multiple antecedents affect performance (Furnari et al., 2021). As an example, S5 Table 4 reports that correlations theorized by the logic of *competitive advantages* and *institutional theory* have a combined relative weight of about 47% in explaining the variation of a firm's *product and service quality*. However, the underlying mechanisms of these two theories are neither completely independent nor fully compatible. Built on economics (industrial organization), the theoretical logic of competitive advantages lies in the assumption of self-interested and economically rational choices in a competitive industry; whereas, institutional theory assumes normative rationality in which firm practices are conforming to peers and historical norms. The two mechanisms may co-exist and sometimes drive firms into different directions: for instance, firms may imitate each other by meeting the low-quality standards (an antecedent associated with *institutional theory*), but entrepreneurs may make investments in raising the quality standards to gain competitive

advantages (an antecedent related to *competitive advantages*). A rewarding agenda is fuzzy set qualitative comparative analysis (fsQCA) (Fiss, 2011; Gupta et al., 2020) or causally interpretable machine learning. The latter uses machine learning (ML) algorithms to estimate and compare many alternative statistical models systematically, and then pick the model with the highest predictive power (i.e., best fit between observed and predicted outcomes) (Choudhury et al., 2019; Tidhar & Eisenhardt, 2020). We suggest management researchers not only import ML methods but also strengthen the use of causal inference into ML (Pearl, 2019; Schölkopf, 2019).

Finally, future research may not only focus on the creation and appropriation of stakeholder benefits but also on *the distribution of stakeholder benefits*. While our study provides evidence for how and why certain antecedents may enhance the level of stakeholder benefits for multiple stakeholder groups, issues concerning the distribution of stakeholder benefits may help understand equality (or lack thereof) among stakeholder benefits (e.g., correlations between two dimensions of stakeholder benefits). Due to the lack of moderating analysis of antecedents on the correlations between stakeholder benefits, our meta-analysis is limited to only the creation of different stakeholder benefits. Creating stakeholder benefits at significantly unequal paces for different stakeholder groups would increasingly worsen the equality of well-being among stakeholders. However, how “balance” should be justified under the principle of fairness and justice remains a much-debated question in the stakeholder literature (Mitchell et al., 2015; Mitchell et al., 2016).

### *Managerial Implications*

For practitioners, we provide a set of evidence-based findings that may help close the well-known academic-practice gap (Rynes et al., 2018). Managers increasingly rely on evidence-based frameworks to improve stakeholder engagement. Traditional methods to manage and engage stakeholders typically rely on expert experiences of stakeholders in terms of stakeholder

importance and stakeholder value to the organization. These subjective assessments are frequently based on untested opinions. Recent stakeholder engagement approaches promulgated by major strategic management consulting firms endorse an evidence-driven approach to stakeholder management and engagement (Schaninger & Lauricella, 2020). Research has already helped organizations identify critical stakeholders (Cross et al., 2021). What is largely missing is guidance on attributing benefits from organizations to stakeholders (Barriere et al., 2018). Our study provides evidence-based advice for managers to identify factors that drive stakeholder performance and provides novel and important guidance for managers who need to attribute benefits to different stakeholders.

## **Conclusion**

In this research, we have synthesized the available evidence of antecedents and theoretical logic towards multiple stakeholder benefits under the framework of quasi-Pareto improvement. We offer the first synthesis of empirical evidence to date on theories whose associated antecedents may satisfy this framework. We also suggest valuable research opportunities, respectively, regarding the multi-dimensional nature within a stakeholder benefit, causal complexity, as well as justifications for the equality of stakeholder benefit creation.

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### **Supplemental Material**

Supplemental material for this article is available online.

Readers can also find our correlation data from <https://github.com/GoPeaks-AI/multi-stakeholder-benefits>.

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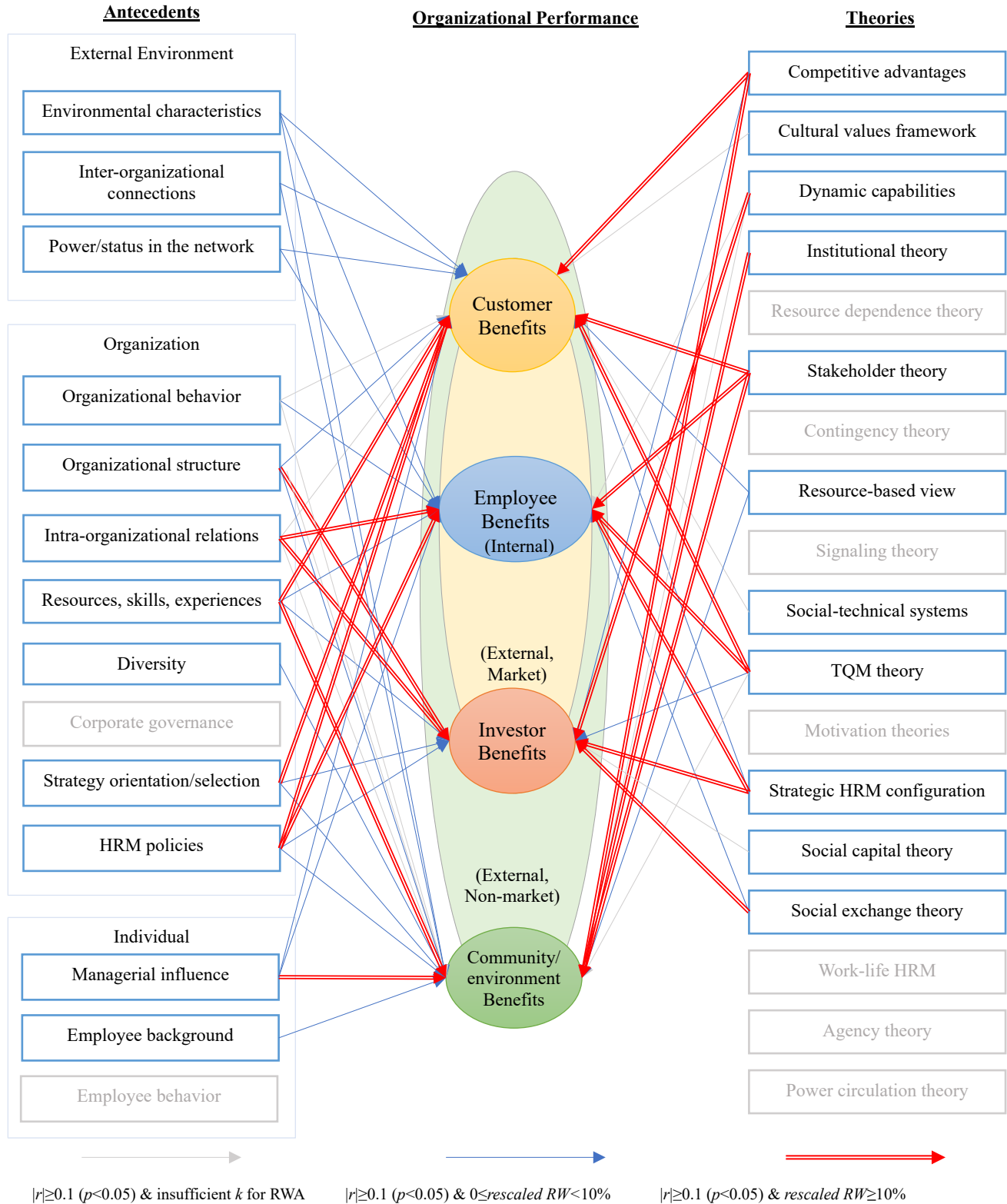
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**Figure 1. Meta-Analytic Findings: The Full Picture**



Note: Antecedent categories and theory families are muted in light gray if they showed empirically no significant explanations ( $|r| < 0.1$  or  $p > 0.1$ ).

**Table I. A Taxonomy for Shared Benefit by Stakeholder Group**

<b>Stakeholder Constructs</b>		<b>Examples of Measures</b>
Investor benefits (INV)	Accounting-based performance (INV1)	Return on assets
	Stock market-based performance (INV2)	Shareholder wealth; Tobin's q; market-to-book value
	Survey-based performance (INV3)	Manager's subjective reporting of financial health
	Growth-based performance (INV4)	Sales growth; profit growth
Customer benefits (CUS)	Customer commitment (CUS1)	Customer loyalty; customer retention
	Customer satisfaction (CUS2)	Customer satisfaction
	Brand recognition and reputation (CUS3)	Corporate reputation
	Product & service quality (CUS4)	Product quality; product innovation; customer service quality
Employee benefits (EMP)	Employee commitment (EMP1)	Turnover
	Employee satisfaction (EMP2)	Job satisfaction; perceived justice; perceived organizational/supervisory support
	Employee compensation, protection, and benefits (EMP3)	Compensation; job security, union membership
	Employee health (EMP4)	Job burnout; physical health indicators
Community/ environment benefits (COM)	Symbolic socially responsible efforts (COM1)	Reporting what an organization has done on the community
	Substantive social impact and performance (COM2)	Impact an organization has made on the community
	Symbolic environmentally responsible efforts (COM3)	Reporting what an organization has done on the environment
	Substantive environmental impact and performance (COM4)	Impact an organization has made on the environment
	Uncategorized or combined (COM5)	A combined social and environmental performance index

Note: Specific examples came from the primary studies in our sample.

**Table II. HOMA Meta-Analysis and Relative Weight Analysis of Theories**

	Pearson mean correlation r (k)					RW (rescaled RW)				
	ALL	INV	CUS	EMP	COM	ALL	INV	CUS	EMP	COM
<i>Competitive advantages</i>	0.20* (137)	0.11* (49)	0.36* (24)	0.17 (6)	0.23* (58)	0.00 (7.08)	0.00 (1.95)	0.04 (34.60)	-	0.00 (10.71)
<i>Cultural values framework</i>	0.05 (55)	-0.01 (10)	0.21* (8)	0.03 (37)		0.00 (4.50)	-	-	0.00 (3.19)	
<i>Dynamic capabilities</i>	0.16* (19)	0.23* (13)		-0.10* (4)	0.20* (2)	0.00 (0.23)	0.01 (15.15)		-	-
<i>Institutional theory</i>	0.07* (179)	0.02 (56)	0.05 (39)	0.01 (28)	0.18* (56)	0.00 (4.87)	0.00 (6.88)	0.01 (8.34)	0.01 (4.32)	0.01 (39.30)
<i>Resource dependence theory</i>	0.42 (4)				0.42 (4)	-				-
<i>Stakeholder theory</i>	0.26* (95)	0.06* (30)	0.30* (15)	0.47* (11)	0.34* (39)	0.01 (12.91)	0.00 (0.44)	0.01 (11.07)	0.03 (22.29)	0.01 (35.23)
<i>Contingency theory</i>	-0.00 (27)	0.06 (12)	0.08 (4)	-0.11 (10)	-0.04 (1)	0.00 (6.90)	0.00 (0.26)	-	0.01 (8.66)	-
<i>Resource-based view</i>	0.12* (523)	0.08* (203)	0.17* (107)	0.08* (159)	0.29* (54)	0.00 (0.91)	0.00 (1.17)	0.00 (1.29)	0.00 (1.91)	0.00 (8.64)
<i>Signaling theory</i>	0.07* (40)	0.04 (14)	0.09 (23)		0.04 (3)	0.00 (4.37)	0.00 (0.92)	0.00 (3.09)		-
<i>Social-technical systems theory</i>	0.14* (7)		0.14* (7)			-		-		
<i>TQM theory</i>	0.33* (47)	0.16* (12)	0.36* (17)	0.37* (15)	0.69* (3)	0.02 (26.38)	0.00 (4.01)	0.03 (27.12)	0.03 (21.62)	-
<i>Motivation theories</i>	-0.01 (33)	-0.05 (4)	0.07 (7)	-0.04 (22)		0.00 (7.42)	-	-	0.01 (6.79)	
<i>Strategic HRM: Configurational view</i>	0.17* (208)	0.12* (59)	0.12* (25)	0.20* (122)	0.01 (2)	0.00 (3.80)	0.01 (10.14)	0.00 (1.03)	0.03 (19.61)	-
<i>Social capital theory</i>	0.19* (5)	0.23* (4)		0.03 (1)		-	-		-	
<i>Social exchange theory</i>	0.20* (101)	0.34* (28)	-0.07 (9)	0.17* (63)	0.49 (1)	0.00 (0.82)	0.04 (53.78)	0.01 (12.00)	0.00 (1.79)	-
<i>Work-life HRM</i>	-0.02 (33)	0.02 (6)	0.03 (1)	-0.03 (26)		0.01 (11.34)	-	-	0.01 (6.97)	
<i>Agency theory</i>	0.04* (58)	0.02 (25)	0.02 (5)	0.07* (27)	0.10 (1)	0.00 (6.63)	0.00 (3.79)	-	0.00 (1.32)	-
<i>Power circulation theory</i>	-0.10* (6)	-0.04 (4)		-0.21* (2)		-	-		-	
<i>Untheorized</i>	0.12* (474)	0.08* (163)	0.16* (84)	0.08* (143)	0.24* (84)	0.00 (1.83)	0.00 (1.53)	0.00 (1.45)	0.00 (1.53)	0.00 (6.12)
<i>R<sup>2</sup></i>						0.06	0.07	0.12	0.13	0.04

Notes:

INV=Investor benefits; CUS=Customer benefits; EMP=Employee benefits; COM=Community/environment benefits;

“-” suggests k is too small, and a blank result suggests no observations;

\* p &lt; 0.05.

More detailed results by antecedents and subcategories of stakeholder benefits are reported in S5 Tables I, II, III, and IV.

## Appendix. Supplementary Materials

### S1. Major Review Articles of Organizational Performance

<i>Paper</i>	<i>Outlet</i>	<i>Definition</i>	<i>The emphasis of multiple stakeholders</i>	<i>Review of measures</i>	<i>Review of antecedents</i>
Kanter and Brinkerhoff (1981)	ARS	<i>“Models that recognize the complexity of these issues tend to differentiate at least three kinds of ‘effectiveness’ (a) task effectiveness or goal attainment, including output, results, efficiency, etc.; (b) appropriate organizational structure and process, including organizational characteristics, member satisfaction, motivation, communication links, internal conflict resolution, absence of strain between subgroups, etc.; and (c) environmental adaptation, including flexibility in the face of change, resource acquisition, longer-term adaptation, and survival.”</i>	<i>“Constituency interests play a role in definitions of effectiveness via the uses to which various groups wish to put the data. Various actors in and around an organization may require different kinds of effectiveness measures for different kinds of decisions. Again, no single effectiveness indicator, nor even a simple list, will suffice.”</i>	No	No
Venkatraman and Ramanujam (1987)	JOM	<i>“Three dimensions --sales growth, net income growth, and return on investment (ROI) --were chosen to reflect [business economic performance].”</i>	Excluded from the scope of business performance	Yes	No
Neely et al. (1995)	IJOPM	<i>“A performance measure can be defined as a metric used to quantify the efficiency and/or effectiveness of an action.”</i>	Customer satisfaction and employee benefits as means to financial performance	Yes	No
Neely et al. (1997)	IJOPM	No specific mentions	<i>“The problem can be overcome if a firm adopts a balanced set of measures which enables managers to address the following questions: How do we look to our shareholders (financial perspective)? What must we excel at (internal business perspective)? How do our customers see us (from the customer perspective)? How can we continue to improve and create value (innovation and learning perspective)?”</i>	Yes	No
Hult et al. (2008)	JIBS	<i>“Financial performance centers on outcome-based indicators assumed to reflect economic goals, inclusive of accounting-based and market-based metrics. [...] Operational performance refers to non-financial dimensions and focuses on operational success factors that might lead to financial performance. [...] Measurement of overall effectiveness reflects a wider conceptualization of performance, and includes</i>	No specific mentions	Yes	No

		<i>reputation, survival, perceived overall performance, the achievement of goals, and perceived overall performance relative to competitors.”</i>			
Hubbard (2009)	<i>BS&amp;E</i>	<i>“It proposes a stakeholder-based, Sustainable Balanced Scorecard (SBSC) conceptual framework coupled with a single-measure Organizational Sustainability Performance Index to integrate the measures in the SBSC.”</i>	<i>“We chose four general areas in both the environment and social areas in which a firm could develop specific performance measures.”</i>	Yes	No
Richard et al. (2009)	<i>JOM</i>	<i>“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.); (c) shareholder return (total shareholder return, economic value-added, etc.).”</i>	Excluded from the scope of organizational performance	Yes	No
Carton and Hofer (2010)	<i>AEJ</i>	No specific mentions. Focus on organizational financial performance.	<i>“Finally, a multi-dimensional model of organizational financial performance can significantly improve organizational stakeholders’ understanding of the effectiveness of management.”</i>	Yes	No
Bititci et al. (2011)	<i>IJMR</i>	No specific mentions	<i>“Here, productivity improvements were often gained at the expense of customer/employee/stakeholder satisfaction with much emphasis on financial indicators.”</i>	No	No
Hamann et al. (2013)	<i>ORM</i>	<i>“The [organizational performance (OP)] construct refers to the phenomenon in which some organizations are more successful than others. [...] OP is synonymous with the concepts of financial performance or corporate economic performance.”</i>	Excluded from the scope of organizational performance	Yes	No
DeNisi and Smith (2014)	<i>AMA</i>	<i>“The definition of firm performance would require the development of some questions about how success is defined and therefore how performance is defined, but could be adapted from existing measures.”</i>	<i>“Finally, they (Venkatraman and Ramanujam, 1986) discuss what they view as the broadest conceptualization of success, which is the domain of ‘organizational effectiveness’. Here, in addition to operational and financial data, they would include measures that consider multiple organizational goals and multiple stakeholders’ interests... This is also related to the ‘triple-bottom-line’ approach. The</i>	Yes	Yes

			<i>triple-bottom-line concerns economic prosperity, environmental quality, and social justice... Consumer pressures, shifting values, technological change, and growing transparency, among other pressures, are pushing organizations to pay attention to more than just financial performance... For those firms, failure on sustainability or failure to take care of their employees and customers means a performance failure, even if financial performance is succeeding."</i>		
Singh et al. (2016)	<i>BJM</i>	<i>"It is claimed that whilst OP refers to financial performance, product market performance and shareholder return, organizational effectiveness represents a broader concept that, in addition to financial performance, also includes wider indicators, including operations effectiveness, customer satisfaction, corporate social responsibility, and other outcomes that reach beyond financial quantification."</i>	No specific mentions	Yes	No
Almatrooshi et al. (2016)	<i>IJPPM</i>	<i>"Organizational performance refers to the performance of a company as compared to its goals and objectives... Define organizational performance as the actual results or output of an organization as measured against that organization's intended outputs."</i>	No specific mentions	No	Yes
Note: <i>AEJ</i> =Academy of Entrepreneurship Journal; <i>AMA</i> =Academy of Management Annals; <i>ARS</i> =Annual Review of Sociology; <i>BS&amp;E</i> =Business Strategy and the Environment; <i>BJM</i> =British Journal of Management; <i>IJMR</i> = International Journal of Management Reviews; <i>IJOPM</i> =International Journal of Productivity and Performance Management; <i>JIBS</i> =Journal of International Business Studies; <i>JOM</i> =Journal of Management; <i>ORM</i> =Organizational Research Methods.					

## S2. Primary Studies for Meta-Analysis

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### S3a. A Taxonomy of Antecedents

<i>Antecedent category</i>	<i>Antecedent construct</i>	<i>Number of Variables</i>
Environmental pressures	Competition	6
	Demand	3
	Economic condition	1
	Environmental complexity	1
	Environmental dynamism	1
	Environmental turbulence	3
	Environmental uncertainty	9
	Industry norms	5
	Market development	1
	National cultures	6
	Regulation	2
	Risk	1
	Social pressure	1
	Institutional pressures	1
	Stakeholder salience	3
Inter-organizational connections	Embeddedness	5
	External relations	3
	External trust	1
	Government control	1
	International relations	1
	Public relations	1
	Social capital	3
Power and status in the network	Legitimacy	4
	Market power	2
	Publicity	11
Organizational behavior	Information disclosure	4
	Environmentally friendly practices	3
	Organizational learning	1
Organizational characteristics	Operating effectiveness	3
	Organizational age	5
	Organizational structure	3
	Organizational size	18
Intra-organizational relations	Collaboration	1
	Organizational commitment	1
	Organizational cultures	1
	Organizational fit	1
	Organizational trust	4
	Team relations	3
Resources, skills, and experience	Experience	13
	Financial slack	3
	Human capital	9
	Imitability	1
	Technology	13
	Knowledge and skills, Managerial	9
	Knowledge and skills, Nonmanagerial	6
	Market agility	1
	Resource availability	12
	Skill adaptability	1
	Skills	1
Diversity	Business scope	2
	Human capital diversity (Demography)	2
	Human capital diversity (Knowledge)	1
	Internationalization	9
	Task diversity	1
Corporate governance effectiveness	Ownership identity	16
	Ownership nationality	1

<i>Antecedent category</i>	<i>Antecedent construct</i>	<i>Number of Variables</i>
Strategy orientation and selection	Ownership structure	2
	Successor type	1
	Business strategy	9
	Competitive behavior	1
	Corporate strategy	9
	Cost efficiency	3
	Proactivity	2
	Product/service features	1
	Strategic change	1
Managerial influence	Strategic fit	1
	Strategic orientation	4
	Ethical leadership	1
	Managerial commitment	3
	Managerial communications	2
HRM policies	Managerial incentives	1
	Responsible practices	9
	HRM benefit policies	2
	HRM incentive policies	4
	HRM practices	30
	HRM structure	1
	HRM values and principles	1
Employee background	HRM policy adaptability	1
	Entrepreneurship	3
	Gender	5
	Imprinting	1
Employee behavior	Tenure	10
	Behavioral adaptability	1
Others	Employee behavior	3
	Asset specificity	1
Total		338

### S3b. Sample Coding of a Relationship

Paper ID	snw07jopm
<i>Antecedent information</i>	
Antecedent construct	Strategic supplier integration
Antecedent construct description	“Strategic supplier integration is the process of acquiring and sharing operational, technical and financial information and related knowledge with the supplier and vice versa.”
Antecedent	Corporate strategy orientation/selection
Antecedent category	Strategy orientation/selection
Antecedent variable label	Strategic supplier integration
Antecedent variable measure	“Our strategic supplier integration scale items (N=6) address information sharing and supplier involvement activities.”
Antecedent variable sample mean	4.763
Antecedent variable sample STD	1.137
<i>Performance</i>	
Stakeholder group	Customers
Stakeholder group subcategory	Customer satisfaction
Performance construct	Customer satisfaction
Performance variable label	Customer satisfaction
Performance variable measure	“We measured managers’ perceptions of customer satisfaction with a single item.”
Do we need to reverse the sign (+/-)?	No
Performance variable sample mean	5.205
Performance variable sample STD	1.399
<i>Relationship</i>	
Explicitly hypothesized by theories	Yes
If applicable, number of theories substantially used for this relationship	1
If applicable, theory (grouped)	Competitive advantages
If applicable, theorization details	Porter and others suggest that stronger linkages and higher degrees of integration across functional and organizational boundaries lead to better performance for the focal organization.
If applicable, seminal work(s) cited	Porter (1985)
Correlation effect size	0.201
<i>Sample metadata</i>	
Market/country	United States
Industry	Manufacturing plants
Medium year	2002
Number of observations	224
Number of organizations	224

Note: This coding is based on primary study Swink, Narasimhan, and Wang (2007).

#### S4. A Brief Review of Theory Families in Primary Studies

Theory Family	Disciplinary Foundation	Main Arguments	Seminal Works	k
Resource-based View	Economics	The resource-based view is based on the assumptions that resources may be heterogeneously distributed across organizations and that these differences may be long-lasting. In order to have sustained competitive advantage, these resources must be rare, valuable, inimitable, and non-substitutable. Firm resources include all assets, capabilities, organizational processes, firm attributes, information, and knowledge controlled by an organization that enable the organization to conceive of and implement strategies and ultimately outperform its rivals. Some scholars focus on a particular aspect of resources, such as natural resources, knowledge, and human capital.	Barney (1991); Hart (1995); Penrose (1959)	523
Strategic HRM Configurational View	Social Psychology	The strategic HR management perspective explores the impact of a “bundle” of HR practices, instead of the individual HR practice, on an organization’s competitive advantage and performance outcomes. This stream of literature believes that there are different types of organizations’ HR management configurations, including high-performance work system, high-commitment work system, and high-involvement work system. Different configurations reflect organizations’ varying philosophy of HR management. An HR management configuration that is aligned with an organization’s strategy can lead to higher performance.	Becker and Gerhart (1996); Ferris et al. (1999); Guest (1997)	208
Institutional Theory	Sociology (Organization Theory)	Institutional theory suggests that organizations incorporate institutional demands into their organizational structure and strategies that are perceived as legitimate by their environment in order to reduce uncertainty. While the pressure for legitimacy may result in organizations becoming more similar over time, many organizations strategically decouple their formal organizational structure from actual strategy and actions to sustain high performance. Organizations that adopt legitimate structures and strategies increase their survival chances over time.	DiMaggio and Powell (1983); Scott (1995, 2013)	179
Competitive Advantages Theory	Economics (Industrial Organization)	Competitive strategy aims to establish a profitable and sustainable position against the forces that determine industry competition with the intention to establish a competitive advantage. The underlying premise is that the industry imposes selective pressures to which the organization must respond. This theory puts much emphasis on an organization’s industry positioning against five competitive forces, namely, bargaining power of the suppliers, bargaining power of the customers, competition in the industry, potential new entrants into the industry, as well as threat of substitute products.	Porter (1990)	137
Social Exchange Theory	Sociology	Social exchange theory posits that relationships between organizations and employees are a series of exchange activities. Organizations provide resources (e.g., job opportunities, pay, and training) in exchange of employees’ resources (e.g., time, labor, and loyalty). While economic exchanges tend to be in a form of “a favor for a favor” and characterized by less trust and more active monitoring, social exchanges tend to be long-term oriented and characterized by greater trust and flexibility. Social exchange theory serves as the dominant lens through which	Blau (1964); Homans (1958, 1961); Thibaut and Kelley (1959)	101

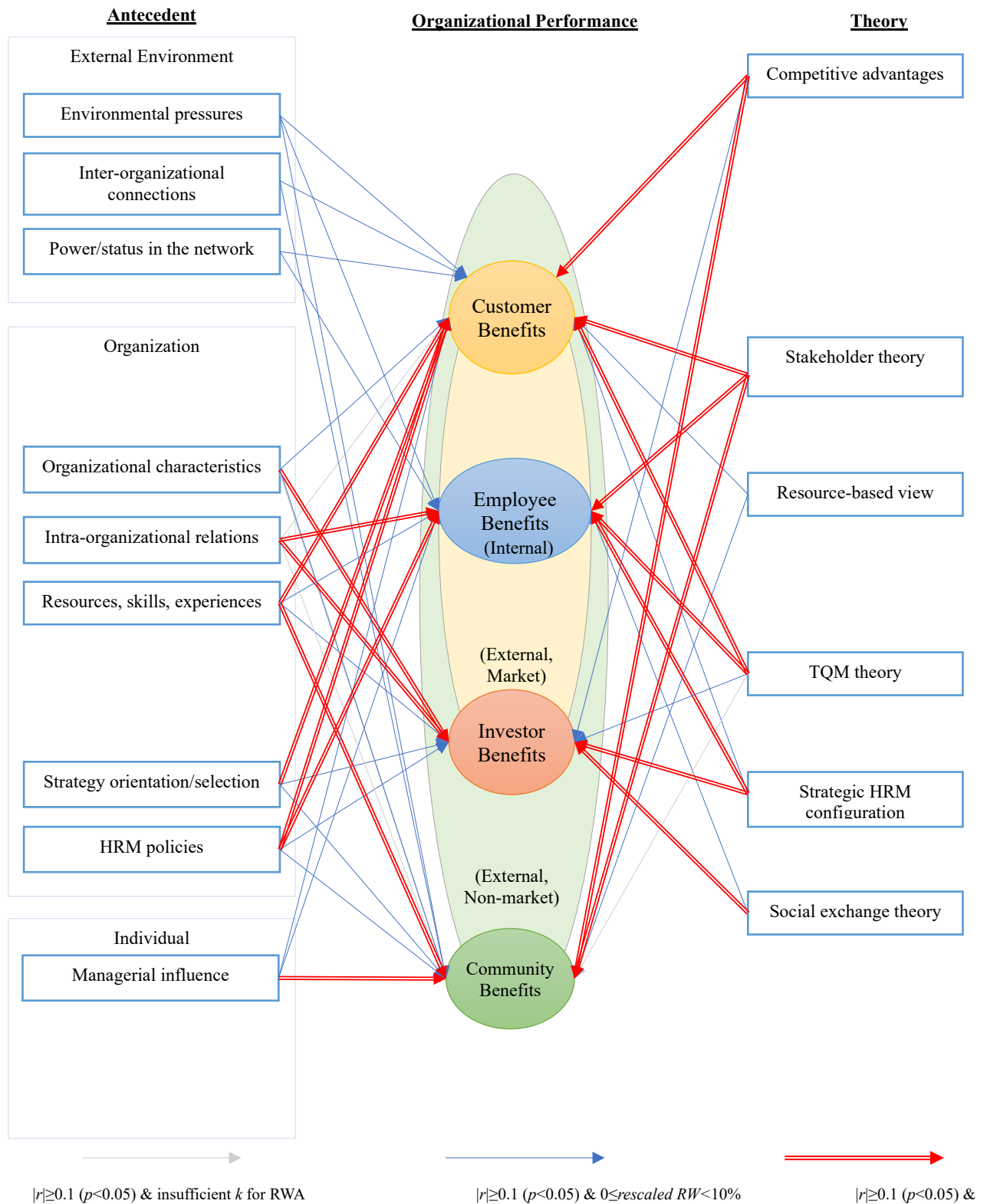
Theory Family	Disciplinary Foundation	Main Arguments	Seminal Works	k
		researchers studied many constructs, such as leader-member exchange, perceived organizational support, psychological contract, trust, organizational commitment, and organizational justice.		
Stakeholder Theory	Ethics/Moral Philosophy	Stakeholder theory argues that organizations should be managed in the interest of all stakeholders, not only shareholders. Stakeholder theory has made great strides in terms of prioritizing the interests of stakeholders. Specifically, stakeholder interests should be considered when the stakeholder is powerful, legitimate, and have urgent claims.	Freeman (1984)	95
Agency Theory	Economics	An agency relationship arises when one party, designated as the agent, acts on behalf of or as representative for another party, designated as the principal. Contractual arrangements such as between employer and employee or shareholders and managers involve agency problems. Agency problems have been studied in economics, public administration, sociology, psychology, and management. Agency theories focus on incentives and disciplines that produce behavior by the agent consistent with the principal's preferences.	Berle and Means (1932); Eisenhardt (1989); Fama and Jensen (1983); Jensen and Meckling (1976); Ross (1973)	58
Cultural Values Framework	Social Psychology	The cultural value framework suggests that national culture of an organization's home country of origin may affect its willingness to adapt to local conditions and types of practices. For instance, HRM practices based on country-specific cultural values (e.g., collectivism and individualism) are related to employee satisfaction, net profit, as well as new products development.	Hofstede (1991)	55
Total Quality Management Theory	Statistics and Decision Sciences	Total quality management (TQM) theory is rooted in the Deming's management method, and focusses on the effectiveness of quality management of the organization. TQM is defined as the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of good and services. This perspective is founded in four assumptions: 1) the cost of poor quality are far greater than the costs of developing processes that produce high-quality products and services, 2) employees care about quality of work they do and will take initiatives to improve it, 3) organizations are systems of highly interdependent parts, as the central problems they face invariable cross traditional functional lines, and 4) quality is the responsibility of top management.	Deming (1986); Ishikawa (1985); Juran et al. (1974)	47
Signaling Theory	Economics	Signaling theory suggests that, under incomplete and asymmetric information, agents use signals to reduce uncertainty when making decisions. Signaling theory's primary elements include the signalers, signals, and receivers. This theory predicts that signalers obtain information about an individual, product, or organization that is not available to outsiders. Signalers deliberately communicate such information to receivers, who observe and interpret the new information and act.	Spence (1973, 1978)	40
Motivation theories	Social Psychology	Motivation refers to the psychological forces that drive individuals' direction, intensity, and persistency of efforts. There are many theories attempting to explain what factors influencing individuals' motivations, including some primary motivation theories such as expectancy theory, goal setting theory, and self-determination theory. First,	Adams (1965); Akerlof and Yellen (1986); Dweck (1986); Elliot (1999); Locke and Latham (1990); Ryan and Deci	33



Theory Family	Disciplinary Foundation	Main Arguments	Seminal Works	k
		equity theory assumes that people's motivations are determined by the belief that one's rewards should deserve one's behavioral efforts. When employees are either over-rewarded or under-rewarded, they can perceive inequity, thus their motivations could be influenced negatively. Second, efficiency wage theory supports that relatively higher payment can attract, retain, and motivate better performers, thus contributing to the increase of both individual efficiency and organizational efficiency. Third, the theory of goal orientation contends that employee exhibit different goal orientations at work. Some people are primarily driven to demonstrate competency and avoid looking incompetent, whereas some else are primarily driven to develop competency through task mastery and avoid having the tasks unmastered.	(1985); Vroom (1964)	
Work-life HR Management Theory	Sociology (Organization Theory)	Work-life HR practices are company practices or policies aiming at helping employees better fulfill their non-work roles, especially the roles in the family domain. People have multiple roles in their work and life domain, each of which places different demands on the individual. The role fulfillments in the different domains are not independent and influenced by each other. The role fulfillments in one domain could spill over, compensate for, conflict with, or enrich the role fulfillments in the other domain. Thus, organizations adopt HR practices to help individuals better manage their non-work roles and responsibilities, which can improve their workplace performance and individual life satisfaction. Typical work-life HR practices include family-related policies (e.g., parental leave and dependent care) and flexible work arrangements (e.g., flexible time and place).	Edwards and Rothbard (2000); Frone (2003); Perry-Smith and Blum (2000)	33
Contingency Theory	Sociology (Organization Theory)	Contingency theory is an open system approach that assumes that the effectiveness of organizational structures depends on the environment. In other words, there is no optimal or best way to design all organizations. Instead, the fit between an organizational practice or action and other element of the environment determine the performance of the organization. While some studies consider more complex fit relationships such as configurational views, the basic message of contingency theory is that no single organizational structure is appropriate for all environments.	Burns and Stalker (1961); Lawrence and Lorsch (1967); Pennings (1992); Woodward (1965)	27
Dynamic Capabilities Theory	Economics (Evolutionary Economics)	The dynamic capabilities theory argues that organizations achieve congruence with the changing business environment by strategically adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment. Dynamic capabilities emphasize organically built, rather than acquired capabilities, and these capabilities rest on organization-specific routines, path dependence, and processes. There are three fundamental types of capabilities: one of sensing and shaping opportunities and threats; one of seizing opportunities; and one of maintaining competitiveness through enhancing, combining, protecting, and reconfiguring an organization's existing assets.	Teece et al. (1997)	19
Social-Technical Systems Theory	Sociology (Organization Theory)	Sociotechnical system theory posits that any collective, such as a team or a workplace, is composed of social and	Trist and Bamforth (1951); Trist (1963)	7

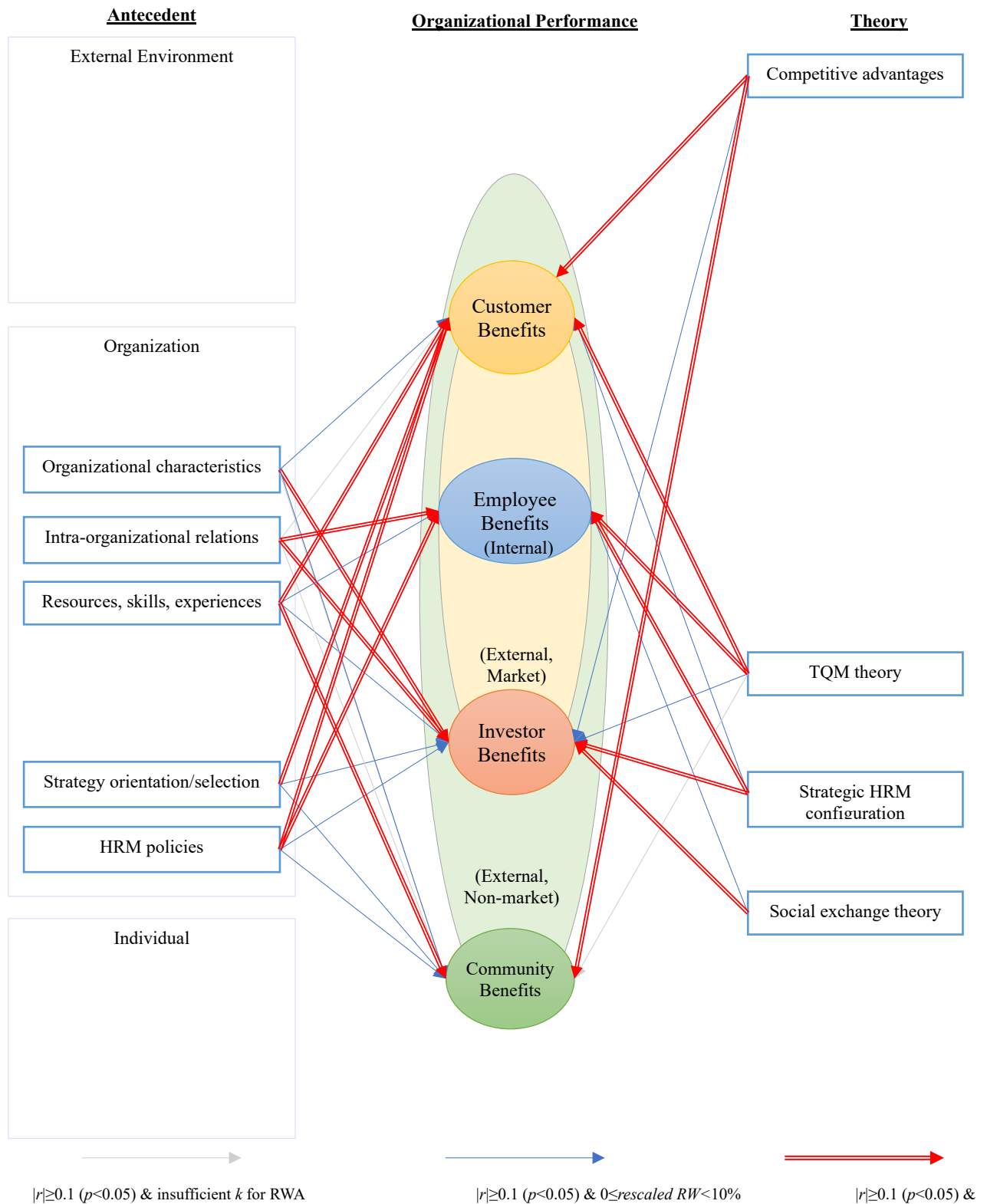
Theory Family	Disciplinary Foundation	Main Arguments	Seminal Works	k
	Theory)	technological systems. Therefore, any method for designing work systems to enhance performance need to blend the requirement of both systems. This theory is founded on two principles: 1) the interaction of social and technical factors creates the conditions for (un)successful system performance and 2) attempts to optimize either system alone will result in sub-optimization of the whole (joint optimization). Sociotechnical system design activity is based on three level of analysis: 1) the primary work system (set of activities that make up functioning organizations), 2) the whole organizational system (such as plants or workplaces), and 3) the macrosocial system (multiple organizational systems).		
Power Circulation Theory	Sociology (Organization Theory)	The power circulation theory challenges the view that CEOs can perpetuate their power and argues that incumbent CEOs face a risk of power contests initiated by other senior executives. This is because CEO's early tenure choices and preferences are relatively stable, leading to decreasing fit between the CEO's strategies and environmental contingencies	Ocasio (1994)	6
Social Capital Theory	Sociology	Social capital refers to the resources derived from social networks and contribute to individuals' or groups' accomplishment of goals. Researchers highlighted different aspects of social networks in determining social capital. For example, an individual's weak ties with people outside one's social clique can provide unique information and resource. This literature highlights the importance of structural holes that a person has and points out that the persons being connected to many others who are not connected to each other possess certain advantages in terms of greater information availability, greater bargaining power, and more career opportunities. In addition, the resources that the contacts possess also matter to one's social capital, such that it is important for one to be connected with key contacts who control useful resources.	Bourdieu (1986); Granovetter (1977); Putnam (1993)	5
Resource Dependency Theory	Sociology (Organization Theory)	Resource dependence theory is primarily concerned with how organization control and relate to their environment. While institutional theory explains how organizations adapt to their environments, resource dependence theory's responses to uncertain external relationship is to dominate and control these sources of uncertainty. For instance, organizations reduce environmental dependencies by forming interorganizational ties such as mergers or board interlocks.	Pfeffer and Salancik (1978, 2003)	4

**S5 Figure 1A. Significant Meta-Analytic Findings: Subset 1**



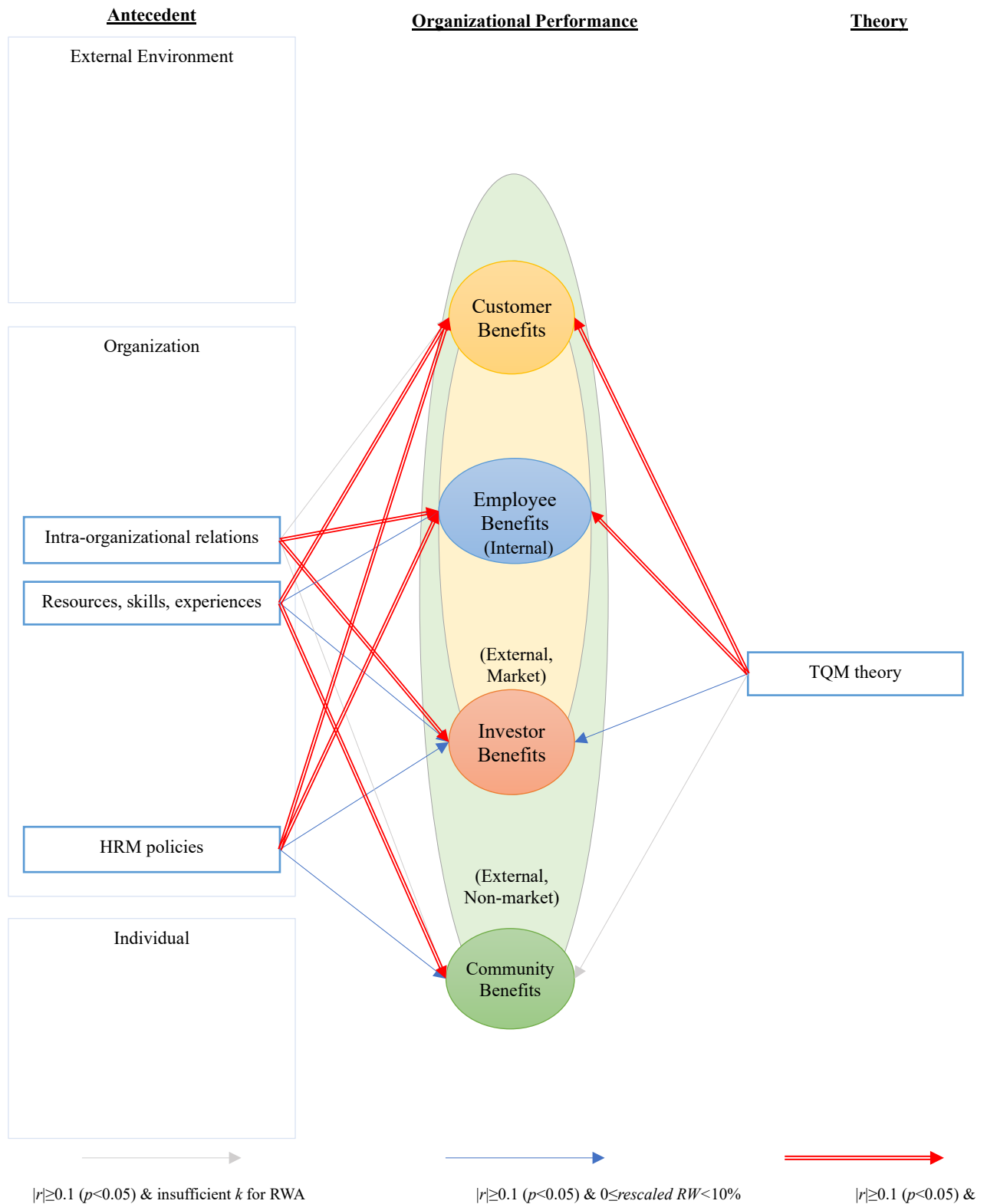
Note: The full picture including all findings is in S5 Figure 1.

**S5 Figure 1B. Significant Meta-Analytic Findings: Subset 2**



Note: The full picture including all findings is in S5 Figure 1.

### S5 Figure 1C. Significant Meta-Analytic Findings: Subset 3



Note: The full picture including all findings is in S5 Figure 1.

**S5. Table I. HOMA Meta-Analysis of Theories, by Stakeholder Subcategories**

	Pearson product-moment mean correlation $r$ ( $k$ )										
	<i>All</i>	<i>INV</i>	<i>INV1</i>	<i>INV2</i>	<i>INV3</i>	<i>INV4</i>	<i>CUS</i>	<i>CUS1</i>	<i>CUS2</i>	<i>CUS3</i>	<i>CUS4</i>
<i>Competitive advantages</i>	0.20* (137)	0.11* (49)	0.04 (14)		0.17* (26)	0.05 (9)	0.36* (24)		0.25* (2)		0.37* (22)
<i>Cultural values framework</i>	0.05 (55)	-0.01 (10)			0.00 (8)	-0.06 (2)	0.21* (8)				0.21* (8)
<i>Dynamic capabilities</i>	0.16* (19)	0.23* (13)	0.25* (12)		0.00 (1)						
<i>Institutional theory</i>	0.07* (179)	0.02 (56)	0.03 (31)	-0.04 (8)	0.04 (10)	0.01 (7)	0.05 (39)	-0.09 (1)	0.31* (8)	-0.01 (8)	0.01 (22)
<i>Resource dependence theory</i>	0.42 (4)										
<i>Stakeholder theory</i>	0.26* (95)	0.06* (30)	0.14* (10)	0.04 (9)	0.09 (5)	-0.08 (6)	0.30* (15)			0.26* (8)	0.34* (7)
<i>Contingency theory</i>	-0.00 (27)	0.06 (12)	0.01 (4)		0.24* (4)	-0.09 (4)	0.08 (4)		0.01 (1)		0.08 (3)
<i>Resource-based view</i>	0.12* (523)	0.08* (203)	0.07* (90)	0.09* (31)	0.12* (48)	0.01 (34)	0.17* (107)	0.45 (1)	0.25* (6)	0.05 (22)	0.19* (78)
<i>Signaling theory</i>	0.07* (40)	0.04 (14)	0.05 (8)	-0.06 (4)		0.19 (2)	0.09 (23)			0.09 (22)	0.17 (1)
<i>Social-technical systems theory</i>	0.14* (7)						0.14* (7)		0.11* (2)		0.15* (5)
<i>Total quality management theory</i>	0.33* (47)	0.16* (12)	-0.03 (1)		0.17* (11)		0.36* (17)		0.30 (1)		0.37* (16)
<i>Motivation theories</i>	-0.01 (33)	-0.05 (4)	-0.05 (2)		0.10 (2)		0.07 (7)				0.07 (7)
<i>Strategic HRM: Configurational view</i>	0.17* (208)	0.12* (59)	0.06* (14)	0.01 (2)	0.21* (29)	0.04 (14)	0.12* (25)	0.01 (1)	0.09* (7)	0.05* (2)	0.15* (15)
<i>Social capital theory</i>	0.19* (5)	0.23* (4)	0.24 (1)		-0.08 (1)	0.38* (2)					
<i>Social exchange theory</i>	0.20* (101)	0.34* (28)	0.15* (11)		0.40* (17)		-0.07 (9)		0.20 (1)		-0.07 (8)
<i>Work-life HRM</i>	-0.02 (33)	0.02 (6)	-0.08 (2)		0.08* (3)	0.09 (1)	0.03 (1)		0.03 (1)		
<i>Agency theory</i>	0.04* (58)	0.02 (25)	0.01 (8)	0.06 (10)	-0.06 (6)	0.09 (1)	0.02 (5)		-0.01 (2)	0.02 (1)	0.06 (2)
<i>Power circulation theory</i>	-0.10* (6)	-0.04 (4)	-0.04 (4)								
<i>Untheorized</i>	0.12* (474)	0.08* (163)	0.03 (69)	0.07 (24)	0.19* (45)	0.03 (25)	0.16* (84)	0.18 (3)	0.24* (18)	0.22* (17)	0.12* (46)

**S5. Table I. HOMA Meta-Analysis of Theories, by Stakeholder Subcategories (Cont'd)**

	Pearson product-moment mean correlation $r$ ( $k$ )										
	EMP	EMP1	EMP2	EMP3	EMP4	COM	COM1	COM2	COM3	COM4	COM5
<i>Competitive advantages</i>	0.17 (6)	0.07 (3)		0.28* (3)		0.23* (58)			0.22* (49)	0.17* (7)	0.45* (2)
<i>Cultural values framework</i>	0.03 (37)	0.04 (7)	0.00 (4)	0.03 (26)							
<i>Dynamic capabilities</i>	-0.10* (4)			-0.10* (4)		0.20* (2)			0.20* (2)		
<i>Institutional theory</i>	0.01 (28)	-0.01 (6)		0.01 (22)		0.18* (56)	0.02 (5)	0.35 (2)	0.23* (25)	0.16* (14)	0.02 (10)
<i>Resource dependence theory</i>						0.42 (4)			0.28 (2)		0.57 (2)
<i>Stakeholder theory</i>	0.47* (11)	0.44 (1)		0.47* (10)		0.34* (39)	0.64* (3)	0.33* (19)	0.32* (7)	0.58* (4)	0.09 (6)
<i>Contingency theory</i>	-0.11 (10)	-0.13 (9)		-0.02 (1)		-0.04 (1)					-0.04 (1)
<i>Resource-based view</i>	0.08* (159)	0.02 (50)	0.18 (3)	0.10* (106)		0.29* (54)	0.13 (5)	0.18* (4)	0.33* (21)	0.30* (18)	0.34* (6)
<i>Signaling theory</i>						0.04 (3)		0.04 (3)			
<i>Social-technical systems theory</i>											
<i>Total quality management theory</i>	0.37* (15)		0.02 (1)	0.39* (14)		0.69* (3)			0.69* (3)		
<i>Motivation theories</i>	-0.04 (22)	-0.14 (5)	0.10 (4)	-0.01 (13)							
<i>Strategic HRM: Configurational view</i>	0.20* (122)	0.14* (27)	0.24 (2)	0.21* (90)	0.31 (3)	0.01 (2)		-0.11 (1)		0.12 (1)	
<i>Social capital theory</i>	0.03 (1)	0.03 (1)									
<i>Social exchange theory</i>	0.17* (63)	0.18* (28)	0.27* (9)	0.12* (26)		0.49 (1)			0.49 (1)		
<i>Work-life HRM</i>	-0.03 (26)	0.07 (4)		-0.05 (22)							
<i>Agency theory</i>	0.07* (27)	0.01 (5)		0.08* (22)		0.10 (1)	0.10 (1)				
<i>Power circulation theory</i>	-0.21* (2)	-0.21* (2)									
<i>Untheorized</i>	0.08* (143)	0.04 (38)	-0.14 (1)	0.10* (104)		0.24* (84)	0.20* (3)	0.15 (9)	0.26* (46)	0.27* (16)	0.16 (10)

Notes: [1] Classifications of indicators follow the taxonomy outlined in Table 2: INV=Investor benefits; INV1=Accounting-based performance; INV2=Stock market-based performance; INV3=Survey-based financial performance; INV4=Growth-based performance; CUS=Customer benefits; CUS1=Customer commitment; CUS2=Customer satisfaction; CUS3=Customer recognition; CUS4=Product and service quality; EMP=Employee benefits; EMP1=Employee commitment; EMP2=Employee satisfaction; EMP3=Employee compensation, protection, and benefits; EMP4=Employee health; COM=Community/environment benefits; COM1=Symbolic social performance; COM2=Substantive social performance; COM3=Symbolic environmental performance; COM4=Substantive environmental performance; COM5=Uncategorized or both. [2] The blank result suggests no observations. [3] \*  $p < 0.05$ .

**S5. Table II. Relative Weight Analysis of Theories, by Stakeholder Subcategories**

	<i>Relative weight (Rescaled weight)</i>										
	<i>All</i>	<i>INV</i>	<i>INV1</i>	<i>INV2</i>	<i>INV3</i>	<i>INV4</i>	<i>CUS</i>	<i>CUS1</i>	<i>CUS2</i>	<i>CUS3</i>	<i>CUS4</i>
<i>Competitive advantages</i>	0.00 (7.08)	0.00 (1.95)	0.00 (2.41)		0.00 (2.75)		0.04 (34.60)		-		0.04 (26.72)
<i>Cultural values framework</i>	0.00 (4.50)	-			-		-				-
<i>Dynamic capabilities</i>	0.00 (0.23)	0.01 (15.15)	0.04 (61.62)		-						
<i>Institutional theory</i>	0.00 (4.87)	0.00 (6.88)	0.00 (2.01)	-	0.01 (5.34)		0.01 (8.34)	-	-	-	0.03 (20.27)
<i>Resource dependence theory</i>	-										
<i>Stakeholder theory</i>	0.01 (12.91)	0.00 (0.44)	-	-	-		0.01 (11.07)			-	-
<i>Contingency theory</i>	0.00 (6.90)	0.00 (0.26)	-		-		-		-		-
<i>Resource-based view</i>	0.00 (0.91)	0.00 (1.17)	0.00 (6.01)	0.02 (73.10)	0.00 (2.30)	0.00 (34.33)	0.00 (1.29)	-	-	0.03 (39.22)	0.01 (7.32)
<i>Signaling theory</i>	0.00 (4.37)	0.00 (0.92)	-	-			0.00 (3.09)			0.01 (8.25)	-
<i>Social-technical systems theory</i>	-						-		-		-
<i>Total quality management theory</i>	0.02 (26.38)	0.00 (4.01)	-		0.00 (1.83)		0.03 (27.12)		-		0.05 (34.93)
<i>Motivation theories</i>	0.00 (7.42)	-	-		-		-				-
<i>Strategic HRM: Configurational view</i>	0.00 (3.80)	0.01 (10.14)	0.00 (1.76)	-	0.02 (12.34)	0.00 (51.28)	0.00 (1.03)	-	-	-	0.00 (0.39)
<i>Social capital theory</i>	-	-	-		-						
<i>Social exchange theory</i>	0.00 (0.82)	0.04 (53.78)	0.01 (8.80)		0.08 (64.94)		0.01 (12.00)		-		-
<i>Work-life HRM</i>	0.01 (11.34)	-	-		-		-		-		-
<i>Agency theory</i>	0.00 (6.63)	0.00 (3.79)	-	0.00 (21.59)	-		-		-	-	-
<i>Power circulation theory</i>	-	-	-								
<i>Untheorized</i>	0.00 (1.83)	0.00 (1.53)	0.01 (17.40)	0.00 (5.31)	0.01 (10.50)	0.00 (14.39)	0.00 (1.45)	-	0.01 (100)	0.04 (52.53)	0.01 (10.37)
<i>R<sup>2</sup></i>	0.06	0.07	0.07	0.02	0.13	0.01	0.12		0.01	0.07	0.14



**S5. Table II. Relative Weight Analysis of Theories, by Stakeholder Subcategories (Cont'd)**

	Relative weight (Rescaled weight)										
	EMP	EMP1	EMP2	EMP3	EMP4	COM	COM1	COM2	COM3	COM4	COM5
Competitive advantages	-	-		-		0.00 (10.71)			0.03 (67.36)	-	-
Cultural values framework	0.00 (3.19)		-	- 0.01 (3.39)							
Dynamic capabilities	-			-		-			-		
Institutional theory	0.01 (4.32)		-	0.01 (5.01)		0.01 (39.30)	-		-0.01 (10.20)	0.02 (85.62)	0.09 (93.44)
Resource dependence theory						-			-		-
Stakeholder theory	0.03 (22.29)		-	0.05 (28.79)		0.01 (35.23)	-	0.14 (84.51)	-	-	-
Contingency theory	0.01 (8.66)		-	-		-					-
Resource-based view	0.00 (1.91)	0.00 (4.56)		- 0.00 (1.75)		0.00 (8.64)	-		- 0.00 (6.02)	0.00 (9.44)	-
Signaling theory						-			-		
Social-technical systems theory											
Total quality management theory	0.03 (21.62)			-0.04 (25.24)		-			-		
Motivation theories	0.01 (6.79)		-	- 0.01 (3.09)							
Strategic HRM: Configurational view	0.03 (19.61)	0.04 (41.17)		-0.03 (17.87)		-			-		
Social capital theory	-	-									
Social exchange theory	0.00 (1.79)	0.05 (52.00)	0.02 (100)	0.00 (0.78)		-			-		
Work-life HRM	0.01 (6.97)		-	0.02 (10.89)							
Agency theory	0.00 (1.32)		-	0.00 (0.89)			-	-			
Power circulation theory	-	-									
Untheorized	0.00 (1.53)	0.00 (2.28)		- 0.00 (1.43)		0.00 (6.12)	-	0.03 (15.49)	0.01 (16.41)	0.00 (4.94)	0.01 (6.56)
R <sup>2</sup>	0.13	0.1	0.02	0.16		0.04		0.16	0.05	0.03	0.1

Notes: [1] Classifications of indicators follow the taxonomy outlined in Table 2: INV=Investor benefits; INV1=Accounting-based performance; INV2=Stock market-based performance; INV3=Survey-based financial performance; INV4=Growth-based performance; CUS=Customer benefits; CUS1=Customer commitment; CUS2=Customer satisfaction; CUS3=Customer recognition; CUS4=Product and service quality; EMP=Employee benefits; EMP1=Employee commitment; EMP2=Employee satisfaction; EMP3=Employee compensation, protection, and benefits; EMP4=Employee health; COM=Community/environment benefits; COM1=Symbolic social performance; COM2=Substantive social performance; COM3=Symbolic environmental performance; COM4=Substantive environmental performance; COM5=Uncategorized or both. [2] The blank result suggests no observations; “-” suggests k was too small to calculate RWA; [3] \*  $p < 0.05$ .

**S5. Table III. HOMA Meta-Analysis of Antecedents, by Stakeholder Subcategories**

	Pearson product-moment mean correlation $r$ ( $k$ )										
	All	INV	INV1	INV2	INV3	INV4	CUS	CUS1	CUS2	CUS3	CUS4
<i>Environmental characteristics</i>	0.12* (240)	0.05* (85)	0.10* (39)	-0.04 (7)	0.04 (23)	-0.02 (16)	0.16* (40)		0.12* (7)	0.08 (11)	0.14* (22)
<i>Inter-organizational connections</i>	0.10* (84)	0.05* (38)	0.00 (16)	0.10 (5)	0.10 (10)	0.08 (7)	0.17* (17)		0.25 (2)	-0.07 (5)	0.27* (10)
<i>Power and status in the network</i>	0.10* (81)	0.06 (36)	0.07 (22)	0.02 (5)	0.06 (5)	0.06 (4)	0.16* (17)		0.02 (3)	0.12 (6)	0.24* (8)
<i>Organizational behavior</i>	0.21* (24)	0.09 (5)	-0.02 (2)		0.16* (3)		0.33* (5)			0.16 (1)	0.37* (4)
<i>Organizational characteristics</i>	0.09* (262)	0.10* (92)	0.08* (33)	0.01 (16)	0.18* (32)	0.02 (11)	0.12* (50)	0.39 (1)	-0.10 (5)	0.16* (11)	0.13* (33)
<i>Intra-organizational relations</i>	0.26* (49)	0.23* (12)	-0.01 (7)		0.44* (5)		0.17* (7)			0.06 (3)	0.26* (4)
<i>Resources, skills, and experience</i>	0.19* (213)	0.12* (81)	0.10* (37)	0.11* (12)	0.23* (18)	0.01 (14)	0.29* (41)	0.45 (1)	0.31* (6)	0.14* (4)	0.29* (30)
<i>Diversity</i>	0.08* (72)	0.00 (25)	-0.06 (13)	0.16 (5)		-0.00 (7)	0.06 (21)		0.30 (1)	0.03 (10)	0.09 (10)
<i>Corporate governance effectiveness</i>	0.05* (83)	0.01 (31)	0.02 (11)	0.05 (10)	-0.05 (8)	-0.02 (2)	0.05 (9)		-0.01 (1)	0.06 (6)	0.06 (2)
<i>Corporate and business strategy</i>	0.15* (328)	0.11* (101)	0.03 (31)	-0.05 (9)	0.20* (47)	0.03 (14)	0.21* (66)	0.04 (2)	0.27* (11)	0.04 (5)	0.21* (48)
<i>HRM policies</i>	0.14* (318)	0.10* (108)	0.06* (35)	0.11 (13)	0.19* (38)	0.03 (22)	0.10* (51)	0.01 (1)	0.08 (5)	0.16 (9)	0.09* (36)
<i>Managerial influence</i>	0.19* (149)	0.09* (34)	0.07 (14)	-0.02 (4)	0.16* (12)	0.10 (4)	0.21* (39)	0.03 (1)	0.31 (4)	0.43* (6)	0.16* (28)
<i>Employee background</i>	0.09* (121)	0.04 (24)	-0.06 (7)		0.10* (13)	0.04 (4)	0.08* (9)		0.03 (3)	0.03 (2)	0.21* (3)
<i>Employee behavior</i>	0.02 (23)	0.01 (17)	0.03 (13)	-0.11 (1)	0.01 (2)	-0.25 (1)	0.24 (2)			0.69 (1)	-0.19 (1)
<i>Others</i>	0.15* (4)	0.17* (3)	0.11 (1)	0.25 (1)		0.15 (1)	0.07 (1)			0.07 (1)	

**S5. Table III. HOMA Meta-Analysis of Antecedents, by Stakeholder Subcategories (Cont'd)**

	Pearson product-moment mean correlation r (k)										
	EMP	EMP1	EMP2	EMP3	EMP4	COM	COM1	COM2	COM3	COM4	COM5
Environmental characteristics	0.10* (72)	0.04 (19)	0.00 (6)	0.13* (47)		0.26* (43)		0.17 (5)	0.22* (19)	0.44* (11)	0.15 (8)
Inter-organizational connections	0.05 (18)	0.10 (7)		0.02 (11)		0.20* (11)	0.09 (3)		0.32* (6)	0.02 (2)	
Power and status in the network	0.16* (16)	0.07 (4)		0.16 (12)		0.04 (12)	-0.11 (1)	0.27 (1)	0.16* (5)	0.26 (1)	-0.15 (4)
Organizational behavior	0.24* (9)	0.29 (2)	0.04 (1)	0.25 (6)		0.13* (5)			0.13* (5)		
Organizational characteristics	0.02 (93)	-0.06 (23)	0.19 (2)	0.04 (67)	0.12 (1)	0.23* (27)	0.05 (2)	0.32* (7)	0.19* (12)	0.32 (3)	0.19* (3)
Intra-organizational relations	0.29* (27)	0.35* (9)	0.47* (2)	0.23* (16)		0.29* (3)	0.25 (1)		0.25 (1)		0.36 (1)
Resources, skills, and experience	0.14* (63)	0.04 (18)	-0.05 (1)	0.18* (44)		0.41* (28)	0.09 (1)		0.47* (11)	0.34* (11)	0.57* (5)
Diversity	0.10 (10)	-0.04 (3)		0.16 (7)		0.19* (16)	0.15 (2)	0.04 (3)	0.27* (4)	0.24* (3)	0.21* (4)
Corporate governance effectiveness	0.07* (34)	-0.01 (7)		0.09* (27)		0.12 (9)	0.10 (1)	0.13 (3)	0.21* (2)	0.13 (2)	0.00 (1)
Strategy orientation and selection	0.06* (82)	-0.02 (24)	0.03 (2)	0.09* (56)		0.22* (79)	-0.06 (1)	0.26 (1)	0.25* (59)	0.16* (13)	0.13 (5)
HRM policies	0.17* (131)	0.09* (40)	0.34* (5)	0.19* (84)	0.40 (2)	0.18* (28)		0.18* (6)	0.23* (15)	0.07 (7)	
Managerial influence	0.12* (43)	0.07 (11)	-0.18 (1)	0.14* (31)		0.37* (33)	0.57* (3)	0.33* (11)	0.34* (11)	0.40* (6)	0.57 (2)
Employee background	0.07* (75)	0.10* (19)	0.01 (4)	0.06 (52)		0.23* (13)	0.40* (2)	0.14 (1)	0.45* (5)	0.01 (1)	-0.06 (4)
Employee behavior	-0.07 (3)			-0.07 (3)		0.43 (1)			0.43 (1)		
Others											

Notes: [1] Classifications of indicators follow the taxonomy outlined in Table 2: INV=Investor benefits; INV1=Accounting-based performance; INV2=Stock market-based performance; INV3=Survey-based financial performance; INV4=Growth-based performance; CUS=Customer benefits; CUS1=Customer commitment; CUS2=Customer satisfaction; CUS3=Customer recognition; CUS4=Product and service quality; EMP=Employee benefits; EMP1=Employee commitment; EMP2=Employee satisfaction; EMP3=Employee compensation, protection, and benefits; EMP4=Employee health; COM=Community/environment benefits; COM1=Symbolic social performance; COM2=Substantive social performance; COM3=Symbolic environmental performance; COM4=Substantive environmental performance; COM5=Uncategorized or both. [2] The blank result suggests no observations. [3] \*  $p < 0.05$ .

**S5. Table IV. Relative Weight Analysis of Antecedents, by Stakeholder Subcategories**

	Relative weight (Rescaled weight)										
	All	INV	INV1	INV2	INV3	INV4	CUS	CUS1	CUS2	CUS3	CUS4
<i>Environmental characteristics</i>	0.00 (1.81)	0.01 (16.92)	0.01 (24.39)	-	0.02 (34.06)	0.01 (63.15)	0.00 (0.83)		-	0.00 (14.80)	0.00 (3.83)
<i>Inter-organizational connections</i>	0.00 (2.26)	0.00 (1.89)	0.00 (3.94)	-	-	-	0.00 (0.53)		-	-	0.01 (13.43)
<i>Power and status in the network</i>	0.00 (2.34)	0.00 (1.91)	0.00 (3.02)	-	-	-	0.00 (0.35)		-	-	-
<i>Organizational behavior</i>	0.00 (4.08)	-	-	-	-	-	-			-	-
<i>Organizational characteristics</i>	0.00 (12.51)	0.00 (1.51)	0.00 (8.02)	0.00 (6.91)	0.00 (6.82)	0.00 (2.97)	0.00 (7.20)	-	-	0.00 (13.07)	0.00 (5.52)
<i>Intra-organizational relations</i>	0.00 (14.86)	0.01 (17.82)	-	-	-	-	-		-	-	-
<i>Resources, skills, and experience</i>	0.00 (16.13)	0.00 (6.06)	0.01 (26.91)	0.01 (27.98)	0.01 (17.86)	0.01 (26.58)	0.02 (43.38)	-	-	-	0.02 (40.91)
<i>Diversity</i>	0.00 (4.27)	0.00 (13.11)	0.01 (19.61)	-	-	-	0.01 (14.68)		-	0.02 (72.13)	-
<i>Corporate governance effectiveness</i>	0.00 (12.89)	0.01 (15.56)	-	-	-	-	-		-	-	-
<i>Strategy orientation and selection</i>	0.00 (2.67)	0.00 (3.80)	0.00 (7.97)	-	0.02 (26.04)	0.00 (1.20)	0.01 (11.17)	-	0.05 (100)	-	0.00 (4.81)
<i>HRM policies</i>	0.00 (1.61)	0.00 (6.43)	0.00 (4.57)	0.02 (65.11)	0.00 (8.38)	0.00 (6.10)	0.01 (13.18)	-	-	-	0.02 (30.27)
<i>Managerial influence</i>	0.00 (13.96)	0.00 (0.39)	0.00 (1.12)	-	0.00 (0.58)	-	0.00 (8.69)	-	-	-	0.00 (1.24)
<i>Employee background</i>	0.00 (5.54)	0.00 (5.07)	-	-	0.00 (6.24)	-	-		-	-	-
<i>Employee behavior</i>	0.00 (5.10)	0.00 (9.53)	0.00 (0.45)	-	-	-	-		-	-	-
<i>Others</i>	-	-	-	-	-	-	-			-	-
<i>R<sup>2</sup></i>	0.03	0.03	0.05	0.04	0.06	0.02	0.05		0.05	0.03	0.05

**S5. Table IV. Relative Weight Analysis of Antecedents, by Stakeholder Subcategories (Cont'd)**

	Relative weight (Rescaled weight)										
	EMP	EMP1	EMP2	EMP3	EMP4	COM	COM1	COM2	COM3	COM4	COM5
<i>Environmental characteristics</i>	0.00 (1.18)	0.01 (7.20)	-	0.00 (2.30)		0.00 (1.41)		-	0.01 (6.93)	0.10 (67.51)	-
<i>Inter-organizational connections</i>	0.00 (2.13)	-		-		0.00 (1.11)	-		-	-	
<i>Power and status in the network</i>	0.00 (1.18)	-		0.00 (0.87)		0.02 (18.60)	-	-	-	-	-
<i>Organizational behavior</i>	0.00 (7.54)	-	-	-		-	-		-		
<i>Organizational characteristics</i>	0.01 (19.35)	0.05 (45.47)	-	0.01 (29.59)	-	0.00 (1.09)	-	-	0.01 (13.56)	-	-
<i>Intra-organizational relations</i>	0.02 (31.46)	-	-	0.00 (10.08)		-	-		-		-
<i>Resources, skills, and experience</i>	0.00 (3.29)	0.01 (6.06)	-	0.00 (10.18)		0.04 (32.99)	-		0.05 (63.57)	0.02 (15.74)	-
<i>Diversity</i>	0.00 (0.16)	-		-		0.00 (1.63)	-	-	-	-	-
<i>Corporate governance effectiveness</i>	0.00 (1.27)	-		0.00 (2.15)		0.01 (6.76)	-	-	-	-	-
<i>Strategy orientation and selection</i>	0.00 (3.73)	0.03 (30.88)	-	0.00 (1.87)		0.00 (2.59)	-	-	0.00 (4.83)	0.03 (16.75)	-
<i>HRM policies</i>	0.02 (26.11)	0.00 (4.19)	-	0.01 (32.43)	-	0.01 (6.83)		-	0.00 (5.88)	-	
<i>Managerial influence</i>	0.00 (1.14)	0.00 (2.16)	-	0.00 (2.52)		0.03 (26.43)	-	0.07 (100)	0.00 (5.23)	-	-
<i>Employee background</i>	0.00 (1.46)	0.00 (4.04)	-	0.00 (8.00)		0.00 (0.55)	-	-	-	-	-
<i>Employee behavior</i>	-			-		-			-		
<i>Others</i>											
<i>R<sup>2</sup></i>	0.06	0.10		0.05		0.11		0.07	0.08	0.15	

Notes: [1] Classifications of indicators follow the taxonomy outlined in Table 2: INV=Investor benefits; INV1=Accounting-based performance; INV2=Stock market-based performance; INV3=Survey-based financial performance; INV4=Growth-based performance; CUS=Customer benefits; CUS1=Customer commitment; CUS2=Customer satisfaction; CUS3=Customer recognition; CUS4=Product and service quality; EMP=Employee benefits; EMP1=Employee commitment; EMP2=Employee satisfaction; EMP3=Employee compensation, protection, and benefits; EMP4=Employee health; COM=Community/environment benefits; COM1=Symbolic social performance; COM2=Substantive social performance; COM3=Symbolic environmental performance; COM4=Substantive environmental performance; COM5=Uncategorized or both. [2] The blank result suggests no observations; “-” suggests k was too small to calculate RWA; [3] \*  $p < 0.05$ .

**S5. Table V. Sampling Bias Tests**

	Pearson mean correlation r (k)					Fail-safe N				
	All	INV	CUS	EMP	COM	All	INV	CUS	EMP	COM
<i>Competitive advantages</i>	0.20* (137)	0.11* (49)	0.36* (24)	0.17 (6)	0.23* (58)	72,092	3,132	8,503	23	13,072
<i>Cultural values framework</i>	0.05 (55)	-0.01 (10)	0.21* (8)	0.03 (37)		1,037	0	399	159	
<i>Dynamic capabilities</i>	0.16* (19)	0.23* (13)		-0.10* (4)	0.20* (2)	378	390		3	5
<i>Institutional theory</i>	0.07* (179)	0.02 (56)	0.05 (39)	0.01 (28)	0.18* (56)	11,277	125	115	0	5,876
<i>Resource dependence theory</i>	0.42 (4)				0.42 (4)	43				43
<i>Stakeholder theory</i>	0.26* (95)	0.06* (30)	0.30* (15)	0.47* (11)	0.34* (39)	114,382	499	4,164	7,954	26,028
<i>Contingency theory</i>	-0.00 (27)	0.06 (12)	0.08 (4)	-0.11 (10)	-0.04 (1)	0	31	2	36	
<i>Resource-based view</i>	0.12* (523)	0.08* (203)	0.17* (107)	0.08* (159)	0.29* (54)	407,515	21,627	34,593	17,853	29,029
<i>Signaling theory</i>	0.07* (40)	0.04 (14)	0.09 (23)		0.04 (3)	815	5	554		0
<i>Social-technical systems theory</i>	0.14* (7)		0.14* (7)			110		110		
<i>TQM theory</i>	0.33* (47)	0.16* (12)	0.36* (17)	0.37* (15)	0.69* (3)	18,351	317	2,915	2,784	107
<i>Motivation theories</i>	-0.01 (33)	-0.05 (4)	0.07 (7)	-0.04 (22)		76	0	50	357	
<i>Strategic HRM: Configurational view</i>	0.17* (208)	0.12* (59)	0.12* (25)	0.20* (122)	0.01 (2)	127,272	4,140	1,042	67,211	0
<i>Social capital theory</i>	0.19* (5)	0.23* (4)		0.03 (1)		798	752			
<i>Social exchange theory</i>	0.20* (101)	0.34* (28)	-0.07 (9)	0.17* (63)	0.49 (1)	14,496	3,098	0	3,934	
<i>Work-life HRM</i>	-0.02 (33)	0.02 (6)	0.03 (1)	-0.03 (26)		52	0		89	
<i>Agency theory</i>	0.04* (58)	0.02 (25)	0.02 (5)	0.07* (27)	0.10 (1)	731	0	0	451	
<i>Power circulation theory</i>	-0.10* (6)	-0.04 (4)		-0.21* (2)		23	0		13	
<i>Untheorized</i>	0.12* (474)	0.08* (163)	0.16* (84)	0.08* (143)	0.24* (84)	717,933	122,713	27,144	22,400	33,004

Notes: [1] Classifications of indicators follow the taxonomy outlined in Table 2: INV=Investor benefits; CUS=Customer benefits; EMP=Employee benefits; COM=Community/environment benefits; [2] “-” suggests k is too small, and a blank result suggests no observations; [3] \* p < 0.05.

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