To agree or not to agree? A meta-analytical review of strategic consensus and organizational performance ☆

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ABSTRACT

The premise underlying most of the research on strategic consensus is that a higher degree of consensus has a positive impact on organizational performance. Empirical studies, however, have produced inconsistent results for the strength and direction of this relationship, as well as for the role of potential moderators. With this meta-analysis, we provide empirical support for a positive effect of strategic consensus on organizational performance, and offer evidence for the existence of several moderators of the aforementioned relationship, which we then discuss as fruitful avenues for future research. This study enhances our understanding of this important strategy process construct and benefits managerial practice by discussing means for improving the realization and implementation of strategies.

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1. Introduction

Over the last four decades, a substantial body of research has accumulated on the subject of strategic consensus. The premise underlying this research is that a higher degree of strategic consensus is associated with improved coordination and cooperation in the implementation of strategy, and hence, with organizational performance. Empirical findings have been conflicting, however (Kellermanns et al., 2005). Studies of the bivariate relationship between strategic consensus and organizational performance, for instance, have produced supportive results (Bao et al., 2008; Homburg et al., 1999; Iaquinto and Fredrickson, 1997; Pagell and Krause, 2002; Rapert et al., 1996, 2002), partially supportive results (Bourgeois, 1980; Knight et al., 1999), as well as results that are not supportive (Menon and Bharadwaj, 1996;

Ramos-Garza, 2009; West and Schwenk, 1996; Wooldridge and Floyd, 1990). Multivariate research involving contingency or moderating variables has also produced inconsistent findings (Bourgeois, 1985; Bowman and Ambrosini, 1997; Homburg et al., 1999; Knight et al., 1999; Michie et al., 2006; Ramos-Garza, 2009; Roberts, 1995; Simons, 1995). In sum, research remains inconclusive on two key issues: whether there is a main, positive or negative effect of strategic consensus on organizational performance, and whether and how moderators affect the consensus–performance relationship.

In spite of ambiguous empirical results, researchers continue to argue that a better comprehension of strategic consensus in general, and a better understanding of the link between consensus and performance in particular, are critical objectives in the area of strategy process and strategy implementation, and are crucial for the progress of strategic management theory (e.g., Kellermanns and Floyd, 2005; Rapert et al., 2002; Sarmiento et al., 2008). The continuing interest in the topic and the conflicting evidence therefore suggest the need for an empirical synthesis of prior findings.

Extending the few theoretical reviews of the literature on strategic consensus (Dess and Priem, 1995; Kellermanns et al., 2005; Priem, 1990), we empirically test the relationship between strategic consensus and organizational performance by performing a meta-analysis across all of the available empirical studies on the subject. Meta-analysis refers to the statistical integration of the results of independent studies in a research domain using a quantitative summary that describes the "typical strength of the effect or phenomenon, its variability, statistical

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significance, and the nature of moderator variables from which one can predict the relative strength of the effect or phenomenon" (Rosenthal, 1995: 183).

Given the emphasis that researchers place on the importance of strategic consensus and the persistent ambiguity of empirical findings, this meta-analysis contributes to theory and practice in several ways. First, as the first meta-analysis on strategic consensus, our results support a positive relationship between strategic consensus and performance and thereby settle a long-lasting debate (Dess and Priem, 1995; Kellermanns et al., 2005; Priem, 1990). Second, by presenting the first synthesis of the full set of empirical studies on the subject, we provide a more detailed understanding of the role of moderators, which we hope will both inform and encourage future studies on the consensus–performance relationship. And third, by shedding light on the key factors that affect the consensus–performance relationship, our study benefits managerial practice by discussing means for improving the realization and implementation of strategies.

2. Hypotheses

2.1. Strategic consensus and organizational performance

Although its origins can be traced to the early group decision-making literature (Stagner, 1969), it is important to recognize that strategic consensus does not refer to ongoing group processes. Instead, the focus of this research is on the degree of agreement within a group of managers as the *outcome* of the decision-making process. Specifically, we define strategic consensus as the shared understanding of (i.e., agreement on) a specific strategy-relevant content by a group of individuals that can be comprised of managers at the top, middle, and/or operating levels of the organization (Kellermanns et al., 2005).

The literature generally assumes that higher levels of consensus are associated with higher organizational performance. Although operationalized differently in terms of content, scope, and measurement (Markóczy, 2001), strategic consensus is argued to improve coordination and cooperation after a decision is made, which leads to a more efficient strategy implementation and, hence, enhanced organizational performance. Consensus will furthermore positively influence outcomes as it prevents self-interest and political behavior (Kellermanns and Floyd, 2005), and constrains other undesirable actions like information filtering and foot-dragging (Guth and MacMillan, 1986).

Empirical findings, however, have been conflicting. Whereas several studies have found a positive relationship between strategic consensus and a variety of performance indicators (Bowman, 1991; Dess and Origer, 1987; Homburg et al., 1999; Hrebiniak and Snow, 1982; Rapert et al., 2002; St. John and Rue, 1991), others found a negative relationship (e.g., Bourgeois, 1985), and still others were unable to find any association between strategic consensus and performance (Ramos-Garza, 2009; Simons, 1995; West and Schwenk, 1996).

One explanation for the lack of broad empirical support is the need for dissensus (i.e., diversity) in the strategy-formulation process (Schwenk, 1990). A higher cognitive diversity among group members improves the ability of a group to process information, because it increases the variety in knowledge and perspectives that a group brings to the decision-making context (Amason, 1996; Jehn and Mannix, 2001). Taking advantage of the diversity that may exist within a decision-making group, however, requires a decision-making process that encourages members to critically examine a number of different alternatives and to develop a synthesis of members' perspectives that is qualitatively better than any of the individuals' perspectives (Amason, 1996; Kellermanns et al., 2008). Thus, while diversity may lead to higher levels of decision quality—which should improve organizational performance—it also implies the danger of achieving lower levels of strategic consensus, which, in turn, would

create implementation difficulties that are detrimental for organizational performance.

In contrast, groups actively seeking agreement in their decision-making processes may put too much emphasis on group harmony to the detriment of constructive criticism (Janis, 1972). An overly zealous agreement on a course of action may then lead to censoring of relevant information and reduce the willingness or ability of groups to recognize the need for change in their decision (Floyd and Wooldridge, 1992; Wooldridge and Floyd, 1989). A high level of agreement within the strategy-formulation process may therefore represent "groupthink" which leads to tunnel vision and insulation and the suppression of minority viewpoints—all of which reduce the information-processing capacity of the group and may lead to lower decision quality (Janis, 1972). This is particularly detrimental as the high levels of complexity and uncertainty typical for strategic decisions demand high levels of information-processing capacity (Kellermanns et al., 2008). Thus, if consensus is the outcome of such a "constrained" decision process—which likely produces lower decision quality—it may have a negative influence on organizational performance.

While research on strategic consensus does often not account for the processes of how consensus was reached (for exceptions see Amason, 1996; Kellermanns et al., 2005), it nevertheless assumes a collective appreciation of the reasons behind a strategic decision as well as a common awareness of the intended action. Without these two elements, efficient implementation of the reached decision would be difficult, as strategic decisions are often not articulated in great detail, unforeseen issues arise as events unfold (Mintzberg et al., 1976), and details must be settled and issues resolved in a way that is consistent with the intention behind the plan (Amason, 1996). A shared understanding of the rationale behind a decision then allows managers to act independently (Floyd and Wooldridge, 1992; Wooldridge and Floyd, 1989) "but in a way that is consistent with the actions of others and consistent with the spirit of the decision" (Amason, 1996: 125).

In summary, the need for diverse groups that experience dissent (i.e., cognitive conflict) during the decision-making process to produce high decision quality, and the need for strategic consensus as the outcome of the process to improve implementation, suggest a tension between these two stages of decision making. Decision-making groups, however, can overcome this problem by managing diversity and preventing cognitive conflict from negatively influencing group cohesiveness, through mechanisms that allow for the generation of high-quality ideas without evoking the consequences of negative affect. For example, the decision-making literature suggests that techniques like devil's advocacy or dialectic inquiry should be employed (Schweiger et al., 1986), while the conflict literature suggests the creation of trust (Simons and Peterson, 2000) or the explicit use of conflict management techniques (De Dreu and Van Vianen, 2001). Thus, by achieving consensus through free and open information exchange which ensures a high decision quality, consensus should lead to greater efficiency, better implementation paired with higher levels of commitment and enhanced organizational performance (Amason, 1996; Kellermanns and Floyd, 2005). Following this line of reasoning, we propose:

Hypothesis 1. Strategic consensus has a positive relationship with organizational performance.

2.2. Moderators of the consensus–performance relationship

Another explanation for the inconsistent results in the literature may be the influence of moderators on the relationship between strategic consensus and organizational performance. This explanation is corroborated by the fact that the results of studies where moderators have been included differ from those that employ no moderators (Kellermanns et al., 2005). Based on a comprehensive review of the literature, we identified five variables that may moderate the consensus–performance relationship. Three of these are theoretical moderators (hierarchical level

of participants, type of strategy content, and environmental dynamism), and two are methodological differences across studies (measurement of consensus and measurement of organizational performance).

2.2.1. Hierarchical level of participants

Early strategy research focused on the top management team (TMT) as the center of decision-making activity (Hambrick and Mason, 1984). Therefore, it is not surprising that studies concentrate on the TMT as the locus of strategic consensus (Amason, 1996; Hrebiniak and Snow, 1982). Exclusive focus on the TMT, however, has been recognized as one of the limitations of prior work (Homburg et al., 1999), and newer developments in the area of strategy process take a more evolutionary view that expands the context for strategic decision making to the entire organization (Burgelman, 1991). This has caused a shift in the consensus literature to focus on participants beyond the TMT. Wooldridge and Floyd (1990), for example, investigate strategic consensus among middle managers. Their research triggered subsequent work that focused either on strategic business unit (SBU) managers or on other managers outside the TMT (Bowman and Ambrosini, 1997; Homburg et al., 1999; Kellermanns, 2003; Lindman et al., 2001; Markóczy, 2001; Rapert et al., 2002; St. John and Rue, 1991).

The argument for a moderating effect of the hierarchical level builds on the premise that the decision-making process varies at different levels of the management hierarchy. It is an over-simplification, however, to describe such differences in terms of the TMT formulating strategic decisions, and middle-/lower-level groups implementing them (Mintzberg, 1978). Middle- and lower-level managers involved in the development of strategic initiatives are required to make an array of decisions, and the process associated with most of these may well be described as "formulation" (Bower, 1970). Moreover, middle-level managers responsible for autonomous initiatives, by definition, play a significant role in formulating new strategy (Burgelman, 1991). Still, in most organizations, formal responsibility for strategic decision making is concentrated at the top of the organization (Hambrick and Mason, 1984). This means that the TMT is likely to spend most of its time and energy in "upstream" decision-making activities, such as articulating a vision, formulating goals and objectives, and choosing broadly defined courses of action. While top managers may also be involved in implementation, such involvement is likely to be less pronounced. TMT involvement with implementation is also likely to be concentrated on an individual top manager's functional agenda (Wooldridge and Floyd, 1997).

When we combine this likely division of formulation and implementation responsibilities between the TMT and middle management with our earlier argument on the tension between high-quality decision formulation and efficient implementation, it becomes clear that strategic consensus may benefit more at one hierarchical level than at other levels. In particular, TMT decision making is likely to benefit from diversity of perspective and cognitive conflict, as this leads to higher-quality decisions (Amason, 1996; Jehn and Mannix, 2001). In contrast, unless middle- and lower-level management exhibit some degree of consensus, they are unlikely to support strategy implementation, which likely jeopardizes organizational performance (Dooley et al., 2000; Wooldridge and Floyd, 1990; Wooldridge et al., 2008). We therefore propose:

Hypothesis 2. The relationship between strategic consensus and organizational performance is stronger for middle- and lower-level management groups than for top management groups.

2.2.2. Type of content

Bowman and Ambrosini (1997) argued that a critical but neglected variable in consensus research is the content of consensus, i.e., *what* decision makers agree about. Since strategy making was initially seen as the prerogative of the TMT, early research framed the content of

consensus as agreement on the means and ends that would develop out of a decision-making process (e.g., Bourgeois, 1980, 1985; Dess, 1987; West and Schwenk, 1996).

When middle- and lower-level managers came to be seen as substantive actors, the content of consensus was reframed in terms of strategic priorities, defined as the relative weight attached to a set of strategic themes such as cost reduction, innovation, and differentiation (Bowman and Ambrosini, 1997; Homburg et al., 1999; Rapert et al., 2002; Wooldridge and Floyd, 1989). This reflected researchers' assumption that managers at lower levels were less likely to be aware of high-level strategic means and ends than top managers (Hambrick, 1981), but that they are more likely to view strategy content as the relative importance of strategic priorities (Wooldridge and Floyd, 1989). Middle- and lower-level managers are key actors in launching and developing strategic initiatives (Burgelman, 1991), which makes relative priorities among initiatives particularly salient at these levels. Moreover, as key actors in the resource-allocation process (Bower, 1970; Burgelman, 1991), top managers are likely to share this view of strategy in terms of priorities across a pool of strategic initiatives. The concept of strategic priorities will therefore be perceived in a similar way—and is thus comparable—across upper, middle, and lower levels of management.

Another argument for a focus on strategic priorities as the content of consensus was made by Wooldridge and Floyd (1989), who maintain that too much consensus on any specific element of a strategy (e.g., strategic means and ends) too early in the strategy development process may represent premature closure, or even group think (Janis, 1972). As a basis for shared understanding and communication, on the other hand, a broad consensus on strategic priorities is useful throughout the decision-making process. Furthermore, strategic consensus on priorities may allow the organization to both efficiently accumulate and allocate resources, while allowing for adaptive behavior, as these priorities tend to be defined more broadly than other contents of consensus (e.g., means and ends). Supporting this argument, empirical research using strategic priorities as the content of consensus has found a consistently positive relationship with organizational performance (Bowman and Ambrosini, 1997; Homburg et al., 1999; Rapert et al., 2002).

Thus, while the range of possibilities for conceptualizing consensus content makes it difficult to specify a precise moderating effect, theory and empirical evidence would suggest that the consensus–performance relationship is likely to be stronger when the content of consensus is defined more broadly as strategic priorities than when it is focused on means and ends or any other, more specific definition of strategy content. We therefore propose:

Hypothesis 3. The relationship between strategic consensus and organizational performance is stronger when consensus exists on strategic priorities than when it exists on strategic means and ends or other definitions of strategy content.

2.2.3. Environmental dynamism

Unlike the first two theoretical moderators, environmental dynamism—defined as variance in the rate of market and industry change (Baum and Wally, 2003)—has been identified in the literature as a potential moderator of the consensus–performance relationship. The theoretical argument is outlined in Priem (1990), who posits that high levels of strategic consensus are likely to undermine organizational performance in a highly dynamic environment, where too much agreement on a course of action might impede the ability of decision makers to consider new alternatives and to respond quickly to unforeseen events. Stable environments, in contrast, make high levels of consensus more desirable, as an agreement to a decision is more likely to pay expected dividends in terms of efficient implementation, without the cost of slowing down decision making.

In spite of the theoretical merits of this argument, only one study provides unambiguous support for the moderating influence of

environmental dynamism (Homburg et al., 1999), whereas other studies did not find a significant effect (West and Schwenk, 1996). However, the meta-analytical method permits us to differentiate between studies with samples from more or less dynamic environments, and thus provides a reliable measure of the moderator that is independent of individual studies. Accordingly, we propose that dynamism is a moderator of the consensus–performance relationship:

Hypothesis 4. The relationship between strategic consensus and organizational performance is stronger for organizations competing in stable environments than for organizations in dynamic environments.

2.2.4. Measurement of consensus

Previous researchers have employed three main techniques to measure consensus. The first approach has been to calculate standard deviations for each dimension of strategy content measured within a group. The mean of these standard deviations represents a group-level (e.g., TMT level) consensus score (Isabella and Waddock, 1994; West and Schwenk, 1996). The second approach uses difference scores measured between an influential person, often the CEO, and other TMT members. This approach then creates a mean of the absolute value of differences (i.e., average-squared Euclidian distance) between organizational members and the focal individual. These scores are then multiplied by minus one to create a continuous measure of consensus, where higher values indicate higher consensus (Dess, 1987; West and Schwenk, 1996). The third approach measures consensus as an index of consistency, operationalized as the average of correlations across dimensions of strategy content among individuals within a group (Homburg et al., 1999).

While the strength and direction of this moderator is impossible to anticipate from theory or available evidence, differences in how consensus is measured likely account for some of the differences observed in the consensus–performance relationship. Therefore:

Hypothesis 5. The strength of the consensus–performance relationship observed across studies is influenced by the method used to measure consensus.

2.2.5. Type of performance measure

While researchers largely agree on the relevant outcome of consensus, i.e., organizational performance, there is little consistency across studies in how this variable is conceptualized and measured. Some studies use objective measures, such as return on assets, return on sales, and growth (e.g., sales growth, growth in capital, and growth in net earnings), as well as customer-centered evaluations of performance (Bourgeois, 1980; St. John and Rue, 1991). Other studies rely on subjective measures by asking respondents to compare their organization to competitors on a variety of performance dimensions (Bowman and Ambrosini, 1997; Dess, 1987), by comparing the performance actually achieved against an ideal level of performance (West and Meyer, 1998), or by using a combination of the two measures (Ensley and Pearce, 2001). Consistent with this variety of approaches, some researchers have argued that the non-significance of their results might be a consequence of inadequate measurement (e.g., West and Schwenk, 1996). We therefore propose:

Hypothesis 6. The strength of the consensus–performance relationship observed across studies is influenced by the method used to measure organizational performance.

3. Method

3.1. Literature search

To identify all available studies on the relationship between strategic consensus and organizational performance, we used a variety of search techniques. Specifically, we conducted electronic keyword searches as well as manual searches of relevant journals to identify studies that appeared relevant. We searched both the *Business Source Premier* and the *ABI/Inform* databases for the years 1969 through mid-2009. We began our review in 1969 to coincide with the publishing of Stagner's (1969) ground-breaking study on corporate decision-making practices. The key words used in our literature search were 'consensus,' 'agreement,' and/or 'cohesion.' We also examined the *Proceedings of the Academy of Management Annual Meetings*. To identify relevant dissertations, we searched the *Dissertation Abstracts* database. We then conducted manual searches of journals that regularly publish empirical studies on strategic consensus. These journals included: *Academy of Management Journal, Administrative Science Quarterly, Human Relations, Journal of Applied Psychology, Journal of Business Research, Journal of Management, Journal of Management Studies, Journal of Managerial Issues,* and *Strategic Management Journal*. We also examined the reference lists of the collected articles and included studies that appeared to contain the examined relationship. In addition, we contacted strategic consensus scholars to gather applicable works that are currently under review or in press.

Our search process yielded a total of 21 usable articles (indicated by the asterisks preceding the references). While the sample size of our meta-analysis is relatively small, it is similar to other recent meta-analyses in both strategy and organizational behavior (e.g., Balkundi and Harrison, 2006, $k = 17$; Harrison et al., 2006, $k = 24$; Li and Cropanzano, 2009, $k = 12$). Two of the identified studies on strategic consensus utilized two independent samples each, which resulted in 23 independent samples for our meta-analysis. Although there were more studies that focused on strategic consensus, a meta-analysis requires zero-order effect sizes either in the form of a correlation, t or F statistics, or means and standard deviations (Johnson et al., 1995). Studies that did not include the zero-order coefficients (e.g., Homburg et al., 1999) or that did not include performance measures as outcome variables (e.g., Amason, 1996) were excluded due to a lack of codifiable information.

3.2. Data coding and meta-analytic methods

Three of the authors were involved in the coding of all information from each article and had to reach a consensus before including any data into our analysis. For each study, we coded the zero-order correlation for the consensus–performance relationship, the sample size, and the reliability of the independent and dependent variables. We also coded information on the moderators examined in our hypotheses: the level of participants (TMTs versus SBU managers); type of content (means/ends, priorities, and others); degree of environmental dynamism (high versus low); measurement of consensus (difference scores, standard deviation, and others); and measurement of performance (objective, subjective, and both).

We followed the meta-analytic procedures described by Hunter and Schmidt (2004) and first computed a weighted average correlation between strategic consensus and performance using the studies' sample sizes as weights. We then corrected these weighted average correlations for unreliability in both independent and dependent variables. As is typical in research involving strategic consensus, a number of studies ($k = 14$) did not report reliability estimates. For these cases, we used the sample size-weighted average of all the reported reliabilities for that variable, which ranged from .80 to .86.

The meta-analytical results reported in Tables 1 and 2 include both the sample size-weighted uncorrected (r) and corrected (r_c) correlation estimates. In addition to the point estimates for the corrected correlations, we report 95% confidence intervals and 80% credibility intervals for the estimated population correlations to describe their variability. *Confidence intervals* provide estimates of the variability around the estimated mean-corrected correlation that is due to sampling error. For example, a 95% confidence interval around a

positive point estimate which does not include zero indicates that if the estimation procedures were repeated a large number of times, the point estimate would be larger than zero in 95% of the cases (the other 5% would be zero or negative). Additionally, if this interval does not include zero, the population correlation is statistically significant at the level specified by the confidence interval (e.g., $\alpha = .05$ for a 95% confidence interval). *Credibility intervals* provide estimates of the variability of individual correlations across studies. For example, an 80% credibility interval that does not include zero for a positive correlation indicates that at least 90% of the correlations in the meta-analysis excluded zero (for positive correlations, less than 10% are zero or negative, and 10% lie at or beyond the upper bound of the interval).

3.3. Moderator analyses

We divided the studies into categories according to expected moderator variables. We then conducted separate meta-analyses for each of the categories delimited by moderator variables. Meta-analytical evidence for the presence of moderators requires, first, that true estimates are different in the categories formed by the potential moderator variable, and, second, that the mean-corrected standard deviation within categories is smaller than the corrected deviation computed for combined categories. To test for these requirements, we report the Q statistic (Hunter and Schmidt, 2004). A non-significant Q statistic indicates that the moderator explains significant variability in the correlations across studies.

4. Results

Table 2 provides the results of the meta-analysis. Hypothesis 1 predicts a positive relationship between strategic consensus and organizational performance. The results reveal a positive and significant relationship between strategic consensus and performance ($r = .18$, $r_c = .22$). Because the 95% confidence interval excludes zero, we can be confident that the mean-corrected correlation is non-zero. This provides full support for our first hypothesis.

The 80% credibility interval, however, includes zero ($-.06$ to $.50$) indicating variability in the correlations between strategic consensus and organizational performance across studies. Moreover, the Q statistic is significant ($Q = 93.30$, $p < .01$), meaning that there is significant variability in the correlations even after taking into account the sampling error. As a result, there are real study differences with respect to variability in the effect size, and thus, moderators of the relationship are likely to exist. Accordingly, we conducted separate meta-analyses for each moderator variable category. Table 2 provides the meta-analysis results for strategic consensus and organizational performance, broken down by the five study-level moderators: level of participants, type of content, environmental dynamism, consensus measurement, and performance measurement.

Hypothesis 2 predicts that there is a stronger relationship between consensus and performance at the SBU level than at the TMT level. The results show that consensus among both the TMT and SBU managers has a positive, non-zero relationship with performance, but that the

Table 1
Relationship between strategic consensus and organizational performance.

Dependent variable	k	N	r	r_c	95% CI	80% CV	Q
Performance	23	2089	.18	.22	.12, .32	−.06, .50	93.30[**]

Notes: k = number of correlations; N = combined sample size; r = uncorrected weighted average correlation; r_c = corrected weighted average correlation; CI = confidence interval; CV = credibility interval; Q = test for homogeneity in the true correlation across studies.
[**] $p < .01$.

Table 2
Moderator analyses for consensus–performance relationship.

Moderator	k	N	r	r_c	95% CI	80% CV	Q
Participants							
TMT	16	1542	.16	.18	.06, .31	−.13, .50	81.69[**]
SBU managers	3	266	.27	.33	.22, .44	.33, .33	1.45
Content							
Means/ends	7	300	.05	.06	−.24, .37	−.43, .55	36.98[**]
Priorities	9	1172	.28	.34	.29, .39	.34, .34	8.45
Other	7	617	.06	.07	−.17, .21	−.13, .26	16.70[**]
Dynamism							
High	11	840	.06	.07	−.06, .21	−.18, .32	32.53[**]
Low	11	1220	.28	.33	.22, .44	.12, .53	36.05[**]
Analysis							
Difference scores	10	646	.21	.25	.05, .44	−.12, .62	50.45[**]
Standard deviations	9	865	.09	.11	−.01, .23	−.09, .31	23.42[**]
Other	4	578	.29	.36	.27, .44	.31, .40	4.64
Performance							
Objective	6	409	.15	.18	−.03, .39	−.12, .48	21.88[**]
Subjective	15	1292	.27	.32	.22, .41	.11, .53	42.15[**]
Both	2	388	−.04	−.06	−.16, .04	−.06, −.06	1.17

Notes: k = number of correlations; N = combined sample size; r = uncorrected weighted average correlation; r_c = corrected weighted average correlation; CI = confidence interval; CV = credibility interval; Q = test for homogeneity in the true correlation across studies.
[**] $p < .01$.

mean correlations for the TMT ($r = .16$, $r_c = .18$) and SBU managers ($r = .27$, $r_c = .33$) differ. Whereas the Q statistic for SBU managers is not significant, suggesting the existence of homogeneous variability in effect size across studies that use SBU managers as participants, the significant Q statistic for the TMT suggests that significant variability remains unexplained after considering this moderator. In combination, these findings are consistent with our hypothesis that the consensus–performance relationship is stronger among SBU management groups than among the TMT and thus provides partial support for Hypothesis 2. However, the resulting confidence intervals overlap, and the magnitude of variability explained by this moderator is not statistically significant at the $p < .05$ level. Support for Hypothesis 2 therefore remains only partial.

Hypothesis 3 proposes that the relationship between consensus and performance is stronger for strategic priorities than for strategic means and ends or other definitions of strategy content. The results indicate that consensus on priorities has a positive, non-zero relationship with performance ($r = .28$, $r_c = .34$), in that the 95% confidence interval excludes zero. Moreover, the Q statistic for strategic priorities is not significant, suggesting homogeneity in the variability within studies employing priorities as the definition of content. These findings partially support Hypothesis 3. There is no support, however, for a non-zero correlation between consensus on strategic means/ends and performance, or between other conceptualizations of content and performance as both the confidence interval include zero. Support for Hypothesis 3 thus remains partial as well.

In line with Hypothesis 4, the results suggest that the consensus–performance relationship is stronger in stable ($r = .28$, $r_c = .33$) than in a dynamic environments ($r = .06$, $r_c = .07$). The confidence interval for low dynamism does not include zero and does not overlap with the confidence interval for high dynamism, thus indicating support for Hypothesis 4, which suggests a positive consensus–performance relationship in less dynamic environments. The Q statistics for both levels of environmental dynamism, however, are significant, suggesting that unaccounted variability remains across these studies after considering this moderator. Hypothesis 5 proposes the method used to measure consensus as another moderator of the consensus–performance

relationship. The results show that the mean correlations for the average-squared Euclidian difference scores ($r = .21$, $r_c = .25$) and other forms of analysis ($r = .29$, $r_c = .36$) are both higher than measures based on standard deviations ($r = .09$, $r_c = .11$), thus providing initial support for Hypothesis 5. However, the Q statistics for both average-squared Euclidian difference scores and standard deviations are significant, suggesting that unaccounted variability remains across these studies after considering this moderator. Support for Hypothesis 5 therefore remains only partial.

Finally, Hypothesis 6 predicts that the strength of the consensus–performance relationship is influenced by the method used to measure organizational performance. For subjective performance ($r = .27$, $r_c = .32$), the confidence interval does not include zero. However, for objective performance ($r = .15$, $r_c = .18$) and for studies that used both performance measurements ($r = -.04$, $r_c = -.06$), the confidence intervals include zero, failing to support a positive relationship between consensus and performance measured in these ways. As confidence intervals also overlap, the mean differences in effect sizes observed for the three performance measures are not statistically significant, thus rejecting Hypothesis 6.

5. Discussion

Despite conflicting findings in the literature, results of this meta-analysis of 23 independent samples reporting on the degree of consensus within 2089 management teams support the assertion that strategic consensus is positively associated with organizational performance. The results further support the role of environmental dynamism as a moderator. In addition, although the evidence is not definitive, the results suggest that the relationship between consensus and organizational performance is stronger when consensus is measured among middle-level managers (versus the TMT), when performance is measured subjectively (versus objectively), and when strategic priorities are used as a measure of content (versus means and ends or others). Whether consensus is measured as an average of standard deviation scores, correlations, or average-squared Euclidian distance also appears to make a difference in the strength of reported relationships. These findings have several important implications for theory and future research.

The positive and significant relationship between strategic consensus and performance should reinforce our interest in this body of research and should help motivate future research in this domain. The effect size detected in this study, however, is relatively small. Our results further indicate that moderating variables may need to be included in order to increase the explained variance. Surprisingly, however, the amount of variance left unexplained is still large even after attempts to parse out the effects of several moderator variables. Thus, additional variance may be explained by mediator variables. For example, explicitly considering implementation processes as mediators between strategic consensus and performance may open up the "black box" between consensus and performance. Accordingly, future research should expand the theoretical and empirical scope to incorporate such mediators.

Furthermore, while current studies imply that the achieved consensus was subject to influences in the decision process that ensure high decision quality (Amason, 1996), this assumption is worth examining more explicitly. For example, when all that managers can agree on are those strategic priorities that are unimportant for the success of their organization, such an agreement is unlikely to enhance organizational performance (Bowman and Ambrosini, 1997). To understand the impact of strategic consensus on organizational performance, future studies should therefore address the "quality" of consensus.

One way to achieve some balance between the need for consensus and the need for diversity may be to differentiate between consensus at the implementation stage of decisions and diversity at the formulation stage (Jehn and Mannix, 2001). The tension may also be addressed by investigating consensus utilizing different groups at multiple levels of analysis. Indeed, our findings suggest that the association between consensus and performance is stronger in middle-management groups than in the TMT. Thus, a combination of consensus and diversity across groups at different hierarchical levels may facilitate adaptive behavior around the identified priorities, which may give middle management sufficient freedom to facilitate a successful implementation process. An additional avenue for research is the interaction between strategic consensus at different levels of analysis. Does consensus in the TMT facilitate the implementation efforts if middle managers have also achieved consensus?

Our results support environmental dynamism as a moderator of the consensus–performance relationship. This result reinforces contingency arguments and provides indirect validation of the trade-offs inherent in seeking consensus. While consensus may enhance implementation efficiency, it may also reduce flexibility (Homburg et al., 1999; West and Schwenk, 1996). Consensus-seeking groups in dynamic environments may therefore find it difficult to achieve both the efficient coordination in implementing strategy that arises from consensus and the strategic responsiveness that arises from diversity. Future research should consider longitudinal studies of group decision-making behavior as a means for examining whether and how consensus-seeking groups adapt their process to accommodate rapidly changing environments. Such a study would lay a better foundation for investigating the impact of environmental dynamism on the consensus–performance relationship.

Our results further suggest that measurement is an important factor on both sides of the consensus–performance relationship. Our meta-analysis spans studies published within the last 25 years and its theoretical foundations reach even further back. These studies vary in their levels of measurement error, construct validity, and sampling error. However, we are not aware of a systematic bias in our results, and it is common to include the entire population of studies into a meta-analysis regardless of age (Balkundi and Harrison, 2006).

Nevertheless, our meta-analysis needs to address questions of validity of both strategic consensus and organizational performance. Concerning strategic consensus, validity is an important concern as its measurement appears to have, although not definitively, an effect on the consensus–performance relationship. Whereas all studies in our meta-analysis draw on the same literature and identify themselves as strategic consensus studies—and it therefore seems reasonable to assume that these studies intend to examine the same concept—consensus on strategic priorities seems to produce higher correlations with performance than other approaches. The question this raises, in light of the aforementioned concerns, is whether consensus on priorities is inherently more valid and reliable than alternatives, or whether these studies were better adapted to their particular contexts.

This observation also holds true for the way consensus is calculated. Average-squared Euclidian distances that assess differences regarding strategic goals compared to a central figure may be superior for capturing consensus when the strategic decision-making process is dominated by the CEO and when the locus is the TMT. Correlations or standard deviation scores may be better measures of consensus when the locus is middle-management groups, and the content is strategic priorities (for a discussion of measurement see also Mathieu et al., 2003). Indeed, when capturing consensus with more items and multiple respondents, the overall likelihood of achieving high levels of agreement may be reduced (Cohen, 1960). While some statistical approaches address these concerns (James et al., 1984), particularly the shortcomings of a Euclidian distance-based approach have been acknowledged in the literature, and polynomial regression has been suggested as a superior alternative (Edwards, 2002). Thus, future research should explore whether a universal or contextual approach to consensus as well as different measurement approaches serve better to advance research in this area. With no pun intended, until consensus is reached

on appropriate methodological approaches, it may be beneficial to estimate consensus in multiple formats using multiple definitions of strategy content.

Finally, the principal limitation of this study is sample size. The empirical results are based on 2089 multi-person consensus assessments derived from 23 samples. Although a larger sample would have been desirable, this study compares favorably with other recent meta-analysis in both the realm of strategy and organizational behavior (Leonidou et al., 2002; Li and Cropanzano, 2009). Furthermore, adding studies to our current sample would only gain marginal increases in power (Glass et al., 1981). As it has taken 25 years to accumulate the studies in our meta-analysis, it seems unwarranted to delay the answer to the question of whether or not there exists a positive relationship between consensus and performance for the slight increase in power by waiting for further studies to be published (Balkundi and Harrison, 2006).

In conclusion, our study contributes to an important, ongoing debate in the strategy literature. Strategic consensus is indeed positively and significantly associated with organizational performance. While our findings on the moderators of this relationship are not entirely conclusive, we find evidence for the influence of several contingency variables on the consensus–performance relationship. As a result, thoroughly identifying and discussing these moderators not only ensures the comparability of prior empirical results, but also raises many opportunities for future research. Accordingly, we hope that this study leads to more cumulative research on the relationship between strategic consensus and organizational performance and inspires research to link this construct to other research domains.

References

Amason AC. Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: resolving a paradox for top management teams. Acad Manage J 1996;39(1):123–48.

Balkundi P, Harrison DA. Ties, leaders, and time in teams: strong inference about network structure's effects on team viability and performance. Acad Manage J 2006;49(1):49–68.

*Bao Y, Fong E, Zhou KZ. Strategic consensus and firm performance: beyond top management team. Working Paper; 2008.

Baum JR, Wally S. Strategic decision speed and firm performance. Strateg Manage J 2003;24:1107–29.

Bourgeois LJ. Performance and consensus. Strateg Manage J 1980;1:227–48.

*Bourgeois LJ. Strategic goals, perceived uncertainty, and economic performance in volatile environments. Acad Manage J 1985;28(3):548–73.

Bower JL. Managing the resource allocation process. Boston, MA: Harvard Business School Press; 1970.

Bowman C. Perceptions of competitive strategy, consensus, and firm performance. Cranfield Institute of Technology, PhD Thesis, 1991.

Bowman C, Ambrosini V. Perceptions of strategic priorities, consensus, and firm performance. J Manag Stud 1997;34(2):241–58.

Burgelman RA. Intraorganizational ecology of strategy making and organizational adaptation: theory and field research. Organ Sci 1991;2(3):239–62.

Cohen J. A coefficient of agreement for nominal scales. Educ Psychol Meas 1960;20(1):37–46.

De Dreu CKW, Van Vianen AEM. Managing relationship conflict and the effectiveness of organizational teams. J Organ Behav 2001;22:309–28.

*Dess GG. Consensus on strategy formulation and organizational performance: competitors in a fragmented industry. Strateg Manage J 1987;8:259–77.

Dess GG, Origer NK. Environment, structure, and consensus in strategy formulation: a conceptual integration. J Organ Behav 1987;12(2):313–30.

Dess GG, Priem RL. Consensus–performance research: theoretical and empirical extensions. J Manag Stud 1995;32(4):401–17.

*Dooley RS, Fryxell GE, Judge WQ. Belaboring the not-so-obvious: consensus, commitment, and strategy implementation speed and success. J Manage 2000;26(6):1237–57.

Edwards JR. Alternatives to difference scores: polynomial regression analysis and response surface methodology. San Francisco, CA: Jossey-Bass; 2002.

*Ensley MD, Pearce CL. Shared cognition in top management teams: implications for new venture performance. J Organ Behav 2001;22:145–60.

Floyd SW, Wooldridge B. Managing strategic consensus: the foundation of effective implementation. Acad Manage Exec 1992;6(4):27–39.

Glass GV, McGaw B, Smith ML. Meta-analysis in social research. Beverly Hills, CA: Sage; 1981.

Guth WD, MacMillan IC. Strategy implementation versus middle management self-interest. Strateg Manage J 1986;7:313–27.

Hambrick DC. Specialization of environmental scanning activities among upper level executives. J Manag Stud 1981;18(3):299–320.

Hambrick DC, Mason PA. Upper echelons: the organization as a reflection of its top managers. Acad Manage Rev 1984;9(2):193–206.

Harrison DA, Newman DA, Roth PL. How important are job attitudes? Meta-analytic comparisons of integrative behavioral outcomes and time sequences. Acad Manage J 2006;49(2):305–25.

Homburg C, Krohmer H, Workman JP. Strategic consensus and performance, the role of strategy type and market-related dynamism. Strateg Manage J 1999;20:339–57.

Hrebiniak LG, Snow CC. Top-management agreement and organizational performance. Hum Relat 1982;35(12):1139–58.

Hunter JE, Schmidt FL. Methods of meta-analysis: correcting error and bias in research findings. Thousand Oaks, CA: Sage; 2004.

*Iaquinto AL, Fredrickson JW. TMT agreement about the strategic decision process: a test of some of its determinants and consequences. Strateg Manag J 1997;18:63–75.

*Isabella LA, Waddock SA. Top management team certainty: environmental assessments, teamwork, and performance implication. J Manage 1994;20(4):835–58.

James LR, Demaree RG, Wolf G. Estimating within-group interrater reliability with and without response bias. J Appl Psychol 1984;69:85–98.

Janis IL. Victims of groupthink: a psychological study of foreign-policy decisions and fiascoes. Boston, MA: Haughton Mifflin; 1972.

Jehn KA, Mannix EA. The dynamic nature of conflict: a longitudinal study of intragroup conflict and group performance. Acad Manage J 2001;44(2):238–51.

Johnson BT, Mullen B, Salas E. Comparison of three major meta-analytical approaches. J Appl Psychol 1995;80(1):94-106.

*Kellermanns FW. Strategic consensus on resource accumulation decisions. Unpublished Dissertation: University of Connecticut, 2003.

Kellermanns FW, Floyd S. Strategic consensus and constructive confrontation: unifying forces in the resource accumulation process. In: Floyd S, Ross J, Jacobs C, Kellermanns FW, editors. Innovating strategy process. Oxford: Blackwell Publishing; 2005. p. 149–62.

Kellermanns FW, Walter J, Lechner C, Floyd SW. The lack of consensus about strategic consensus: advancing theory and research. J Manage 2005;31(5):719–37.

Kellermanns FW, Floyd S, Pearson A, Spencer B. The interactive effects of shared mental models and constructive confrontation on decision quality. J Organ Behav 2008;29:119–37.

Knight D, Pearce CL, Smith KG, Olian JD, Sims HP, Smith KA, Flood P. Top management team diversity, group process, and strategic consensus. J Organ Behav 1999;20:445–65.

Leonidou LC, Katsikeas CS, Samiee S. Marketing strategy determinants of export performance: a meta-analysis. J Bus Res 2002;55:51–67.

Li A, Cropanzano R. Do East Asians respond more/less strongly to organizational justice than North American? A meta-analysis. J Manag Stud 2009;46(5):787–805.

*Lindman FT, Callarman TE, Fowler KL, McClatchey CA. Strategic consensus and manufacturing performance. J Manag Issue 2001;13(1):45–64.

Markóczy L. Consensus formation during strategic change. Strateg Manage J 2001;22:1013–31.

Mathieu JE, Smith-Jentsch KA, Kraiger K. Alternative measures and operationalization of shared mental models and their relationship to air traffic controllers' effectiveness. Working Paper University of Connecticut; 2003.

*Menon A, Bharadwaj SG. The quality and effectiveness of marketing strategy: effects of functional and dysfunctional conflict in intraorganizatinal relationships. J Acad Mark Sci 1996;24(4):299–313.

*Michie S, Dooley RS, Fryxell GE. Unified diversity in top-level teams: enhancing collaboration and quality in strategic decision making. Int J Organ Anal 2006;14:130–49.

Mintzberg H, Raisinghani D, Theoret A. The structure of unstructured decision processes. Adm Sci Q 1976;21:246–75.

Mintzberg HP. Patterns in strategy formation. Manage Sci 1978;24(9):934–48.

*Pagell M, Krause DR. Strategic consensus in the internal supply chain: exploring the manufacturing-purchasing link. Int J Prod Res 2002;40(13):3075–92.

Priem RL. Top management team group factors, consensus, and firm performance. Strateg Manage J 1990;11:469–78.

*Ramos-Garza C. TMT strategic consensus in Mexican companies. J Bus Res 2009;62(9):854–60.

*Rapert MI, Lynch D, Suter T. Enhancing functional and organizational performance via strategic consensus and commitment. J Strat Mark 1996;4:193–205.

*Rapert MI, Velliquette A, Garretson JA. The strategic implementation process. Evoking strategic consensus through communication. J Bus Res 2002;55(4):301–10.

*Roberts C. Consensus on strategic decisions and core capabilities. University of Massachusetts Amherst: Unpublished Dissertation, 1995.

Rosenthal R. Writing meta-analytic reviews. Psychol Bull 1995;118(2):183–92.

Sarmiento R, Knowles G, Byrne M. Strategic consensus on manufacturing competitive priorities: a new methodology and proposals for research. J Manuf Technol Manage 2008;19(7):830–43.

Schweiger DM, Sandberg WR, Ragan JR. Group approaches for improving strategic decision making: a comparative analysis of dialectical inquiry, devil's advocacy, and consensus. Acad Manage J 1986;29(1):51–71.

Schwenk CR. Conflict in organizational decision making: an exploratory study of its effect in for-profit and not-for-profit organizations. Manage Sci 1990;36(4):436–48.

*Simons TL. Top management team consensus, heterogeneity, and debate as contingent predictors of company performance: the complementarity of group structure and process. Academy of Management Proceedings; 1995. p. 62–6.

Simons TL, Peterson RS. Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust. J Appl Psychol 2000;85(1):102–11.

*St. John CH, Rue LW. Co-ordination mechanisms, consensus between marketing and manufacturing groups, and marketplace performance. Strateg Manage J 1991;12:549–55.

Stagner R. Corporate decision making: an empirical study. J Appl Psychol 1969;53(1):1-13.

*West CT, Schwenk CR. Top management team strategic consensus, demographic homogeneity and firm performance: a report of resounding nonfindings. Strateg Manage J 1996;17:571–6.

*West GP, Meyer GD. To agree or not to agree? Consensus and performance in new ventures. J Bus Venturing 1998;13:395–422.

Wooldridge B, Floyd SW. Strategic process effects on consensus. Strateg Manage J 1989;10:295–302.

*Wooldridge B, Floyd SW. The strategy process, middle management involvement, and organizational performance. Strateg Manage J 1990;11:231–41.

Wooldridge B, Floyd SW. Forms of TMT consensus and organizational change: an integrative model. In: Thomas H, O'Neal D, Ghertman M, editors. Strategy, structure and style. West Sussex, England: John Wiley & Sons Ltd.; 1997. p. 357–76.

Wooldridge B, Schmid T, Floyd SW. The middle management perspective on strategy process: contributions, synthesis, and future research. J Manage 2008;34(6): 1190–221.