A prevailing view held by interorganizational scholars throughout much of the twentieth century was that the nature of business to business relationships depended upon the relative power and control capabilities of participating firms (Mallen 1977). As a result, much of the debate in the marketing channels literature focused on which firm should lead, direct, or serve as the so-called “channel captain” (Little 1970), and on ways firms could acquire and retain positions of dominance over others (Lusch 1976). This focus on power, dependency, control, conflict, etc., in the marketing domain framed the interorganizational governance issue in terms of coercion – that dominant firms “managed” their customers and suppliers through the use of persuasive and/or forceful influence tactics, or the tacit threat thereof (Frazier and Rody 1991).

More recently, in supply chain management research, a countervailing perspective has been added in which interorganizational relationships, alliances, and collaborations based upon commitment, trust, and the sharing of information and rewards produce competitive advantages (Christopher and Jüttner 2000; Golicic, Foggin, and Mentzer 2003; Golicic and Mentzer 2005; Lambert and Cooper 1998; Rinehart et al. 2004) relating to what Dyer and Singh (1998) refer to as relational rent. Relational rent is defined as “a supernormal profit jointly generated in an exchange relationship that cannot be generated by either firm in isolation and can only be generated through the joint idiosyncratic contributions of the alliance partners” (Dyer and Singh 1998, p. 662). As a result, contemporary academic literature addressing interorganizational governance has examined a wide range of relationship-related phenomena, with studies focusing on such topics as the efficacy of alternative types of relationships (Lambert and Cooper 1998; Nevin 1995; Rinehart et al. 2004), relationship quality (Hewitt, Money, and Sharma 2002), relationship structure or type (Boyle et al. 1992; Golicic
and relationship magnitude (Golicic et al. 2003; Golicic and Mentzer 2005), among other concepts.

Surprisingly, the addition of the relational supply chain systems perspective, with focus placed on more symbiotic types of governance mechanisms across multiple firms simultaneously, has not yet yielded research examining influence tactics that are most effective at generating relational rents. This article addresses that void in the literature by examining the role of interorganizational citizenship behaviors (ICB’s) in achieving desired firm and supply chain outcomes. We define ICB’s as interfirm behavioral tactics, generally enacted by boundary personnel, that are discretionary, not directly or explicitly included in formal agreements, and that in the aggregate promote the effective functioning of the supply chain. The interfirm behaviors are examined within the context of partner firms. Partner firms are organizations that have a “tailored business relationship based on mutual trust, openness, shared risk and shared rewards that result in business performance greater than would be achieved by the two firms working together in the absence of a partnership” (Lambert, Knemeyer, and Gardner 2004). Partnerships between supply chain firms can be multi-directional; for example, organizations can develop partnering relationships with their suppliers (the firm with whom they do the most business) as well as their customers. Furthermore, within our definition, “discretionary” means that the behavior is not an enforceable requirement set forth in agreements among partner firms, but rather is a matter of choice, such that its omission is not generally understood as undesirable or punishable (Organ 1988).

The recent literature addressing supply chain relationships has thus provided a solid foundation for advancing the “relationalist” perspective of supply chain management. However, though the literature on supply chain relationships is clearly evolving and is becoming more robust for the purposes of explaining multi-firm exchange dynamics at the strategic level, no specification of firm-level tactical behaviors that best facilitate supply chain relationship building has appeared in the supply chain literature. A tactical behavior paradigm that guides firms’ daily actions as they leverage relationships and strive toward desirable outcomes is needed.

We theoretically ground the ICB concept in prior studies of organizational citizenship behavior (OCB) as originally posited by Organ (1988). Although over 350 OCB-related articles have been published in the psychology, management, organizational behavior, and marketing literatures, none of these are known to have focused on interorganizational settings. The purposes of this paper are to: (1) show that the rich OCB literature offers useful insights related to interfirm relationships for supply chain managers and researchers; (2) illustrate that intraorganizational OCB constructs are theoretically applicable at the interorganizational level; (3) test illustrative research hypotheses regarding the impact of ICB’s on selected outcomes; and (4) suggest implications for supply chain executives, trainers, and researchers.

**INTERORGANIZATIONAL CITIZENSHIP BEHAVIORS**

Over the past two decades, a body of literature within the domain of management has emerged addressing organizational citizenship behaviors (OCB). Organ (1988) describes organizational citizenship behavior as:
An individual behavior that is discretionary, not directly or explicitly recognized by formal reward systems and that in the aggregate promotes the effective functioning of the organization..... (Discretionary means) that the behavior is not an enforceable requirement of the role or the job description, (but) rather (is) a matter of personal choice, such that its omission is not generally understood as punishable (p. 4).

These behaviors have been typologically classified as helping behaviors, sportsmanship, organizational loyalty, individual initiative, organizational compliance, civic virtue, and self-development (Podsakoff et al. 2000). Definitions for each of these OCB types are provided in the left-side columns of Table 1. OCB’s and their antecedents and outcomes have been studied in such diverse fields as organizational behavior, human resource management, marketing, hospital and health administration, military psychology, economics, and leadership (Podsakoff et al. 2000). All of these studies focused on behaviors at the individual or group level as opposed to those at the organization level.

Theory building research undertaken in the OCB literature may, for several reasons, render valuable observations when applied to interorganizational contexts. For example, Podsakoff, Ahearne, and MacKenzie (1997) contend that one would expect OCB’s to be more critical to organizations that experience what Thompson (1967) called “serial interdependence,” e.g., characterized by high levels of internal mutual dependence that require give-and-take, as well as joint or cooperative effort among organizations to achieve effective coordination and superior performance. Organ (1988) added that one would think that OCB’s are important whenever teamwork is important. In his original conceptualization of OCB, Organ (1988) also stated that, when aggregated over time and people, OCB’s enhance organizational effectiveness.

Podsakoff and his colleagues (2000), in subsequent OCB literature, summarize supporting reasons for this assertion. The authors suggest that OCB’s might enhance organizational effectiveness by enhancing coworker and managerial productivity, by freeing resources for more productive purposes, by reducing the need to devote scarce resources to purely maintenance functions, and/or by serving as an effective means of coordinating activities. These situations are parallel to those described in the contemporary supply chain literature where supply chain management is often characterized as the strategic coordination of business processes across interconnected firms with the purpose of improving the efficiency and effectiveness (i.e., performance) of both individual companies and the supply chain as a whole (Mentzer et al. 2001). In short, the commonly held definition of supply chain management seems to parallel/capture the “serial interdependence,” resource sharing, and resource optimization elements that are most supportive of OCB, and thus the application of concepts from the OCB literature to interorganizational settings seems justifiable.

In addition to the similarities that may be drawn between intra- and inter-organizational application of the citizenship behavior concept, there are other motivations for applying these theoretical foundations at the firm level. The widespread interest in studying OCB’s in the management literature is, in part, a result of findings that support positive business outcomes. Podsakoff and MacKenzie (1994) and Podsakoff, Ahearne, and MacKenzie (1997) established links between OCB’s and measures of organizational performance. The findings from these studies serve to further motivate the examination of similar tactics in interorganizational settings, given that the generation of operating efficiency and strategic effectiveness are central goals in the practice of supply chain management (Lambert, Cooper, and Pagh 1997; Mentzer et al. 2001).
TABLE 1
INTERORGANIZATIONAL CITIZENSHIP BEHAVIORS: CONCEPTUAL DEVELOPMENT

<table>
<thead>
<tr>
<th>Organizational Citizenship Behaviors (OCB)</th>
<th>Construct Definition</th>
<th>Examples of OCB's</th>
<th>Interorganizational Citizenship Behaviors (ICB)</th>
<th>Construct Definition</th>
<th>Examples of ICB's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping Behaviors</td>
<td>Behavior directed at helping a person in face-to-face problem situations&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Assisting someone with a heavy workload in completing their tasks</td>
<td>Interorganizational Altruism</td>
<td>Behavior directed at helping a partner firm in solving problems or acquiring needed skills/knowledge</td>
<td>Loaning expertise to partner firms to solve unrelated problems or advise personnel</td>
</tr>
<tr>
<td>Sportsmanship Behaviors</td>
<td>A citizen-like posture of tolerating the inevitable impositions and inconveniences of work without complaining&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Maintaining a positive attitude when a co-worker fails to complete a task in a timely manner</td>
<td>Interorganizational Tolerance</td>
<td>Identification and tolerance of inevitable delays/impositions/inconveniences associated with interorganizational exchange without retribution</td>
<td>Accepting exceptional late shipments without penalty; working with partners to smooth out shipping data inaccuracies; accepting less than desired terms</td>
</tr>
<tr>
<td>Organizational Loyalty</td>
<td>Identification with and allegiance to organizational leaders and the firm as a whole&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Remaining committed to the job position during periods of resource cutbacks</td>
<td>Interorganizational Loyalty</td>
<td>Allegiance to partner firms and the supply chain as a whole, sometimes sacrificing the interests of the firm or business unit for the greater good.</td>
<td>Working hard during collaborative planning sessions to find fair service terms and delivery agreements</td>
</tr>
<tr>
<td>Individual Initiative</td>
<td>Conscientiously performing tasks by voluntarily going above minimum required level&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Volunteering to take on additional responsibility; staying late to complete tasks</td>
<td>Interorganizational Conscientiousness</td>
<td>Performing cross-organizational tasks with higher than normal levels of forethought and effort</td>
<td>Monitoring shipments, deliveries, or installations to ensure commitments are met or exceeded</td>
</tr>
<tr>
<td>Organizational Compliance</td>
<td>A more impersonal form of conscientiousness that is indirectly helpful to others; doing what a &quot;good employee ought to do.&quot;&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Being punctual; not wasting time; not wasting supplies or resources; demonstrating respect for policies</td>
<td>Interorganizational Compliance</td>
<td>Orientation toward the rules, policies, and processes of partner firms as well as the focal firm in the course of interorganizational exchange; compliance with supply chain behavioral norms</td>
<td>Being punctual to interorganizational meetings; showing respect for partners' policies; adhering to partners' quality standards beyond contractual requirements</td>
</tr>
<tr>
<td>Civic Virtue</td>
<td>Responsible, constructive involvement in organizational governance processes&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Attending meetings; participating in policy debates; looking out for the firm's best interests</td>
<td>Interorganizational Constructiveness</td>
<td>Interest and activity in interorganizational affairs affecting the relationships between exchange partner firms</td>
<td>Looking out for supply chain partners' best interests in policy debates; lobbying government on partner behalf</td>
</tr>
<tr>
<td>Self Development</td>
<td>Taking steps to improve knowledge, skills, abilities so as to be better able to contribute to organizational goals&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Attending corporate or skills training sessions; reading trade journals; taking college courses</td>
<td>Interorganizational Advancement</td>
<td>Taking steps to improve relationships, knowledge bases, and integrated processes linking one or more supply chain partners</td>
<td>Establishing shared databases with partner firms, collaborating on product or process development with external partners</td>
</tr>
</tbody>
</table>

<sup>1</sup> Adopted from Smith, Organ, and Near (1983)
<sup>2</sup> Adopted from Organ (1988)
<sup>3</sup> Adopted from Graham (1991)

Applying OCB Concepts and Findings to ICB Situations

Staw (1991) notes that psychological theories can often strengthen and/or add theoretical substance to organizational level models by providing underlying rationale and/or process explanations. Our view, and the focus of the current paper, is that the application of OCB concepts and findings to ICB situations is relevant as well as theoretically and practically useful. Table 1 presents a com-
comparison of the seven constructs most frequently cited in the OCB literature, in the left-side columns, with parallel proposed ICB constructs in the right-side columns, and using supply chain examples to illustrate. The extension of the extant OCB concepts into the ICB context could provide valuable insight into the processes used by firms’ boundary employees when more symbiotic tactics may be useful in governing interorganizational exchange.

Interorganizational altruism is conceptually parallel to the OCB notion of helping behavior (George and Brief 1992; George and Jones 1997). These behaviors reflect a firm’s selfless effort to assist partner firms in solving business problems, or developing the required knowledge or skills to do so. Examples of this type of behavior might be lending technological expertise to partner firms in order to enhance the extent to which they are competitive in their market, or giving advice to a supplier warning them of potential problems in dealing with a specific original equipment manufacturer.

Interorganizational tolerance is based on a category of OCB’s commonly referred to as sportsmanship behaviors (MacKenzie, Podsakoff, and Fetter 1993; Organ 1988). These ICB’s reflect the willingness to tolerate inconveniences in the business relationship, including delays in performance, impositions on the focal firm resulting from unavoidable externalities, and/or other inconveniences that are associated with cooperating with other firms. Importantly, interorganizational tolerance includes the acceptance of such inconveniences without retribution and/or “scorekeeping,” - actions that are directed toward or implying future coercive actions taken against the firm at fault.

Interorganizational loyalty is defined consistently with the organizational loyalty OCB category (Graham 1991). Specifically, it is defined as behaviors reflecting allegiance to partner firms and the supply chain as a whole, with the willingness to sacrifice the interests of the firm for the greater good of either. The willingness to adopt an overall supply chain systems approach (Stock and Lambert 2001) is reflective of interorganizational loyalty. Similarly, interorganizational loyalty includes activities such as notifying suppliers when orders from key customers are expected to decline, adopting the pallet system of a key supplier or customer, or committing to flexible response initiatives in order handling (Hutt and Speh 2004).

Interorganizational conscientiousness is conceptually similar to the category of OCB’s reflecting individual initiative (Moorman and Blakely 1995). Firms enacting these behaviors perform tasks impacting their partner firms with higher than normal levels of forethought and effort. For example, interorganizationally conscientious firms may check and double check components shipments to their supply chain partners to verify accuracy, and/or hold employees to a “zero mistakes” or 100% fulfillment standard.

Interorganizational compliance refers to a set of ICB’s that reflect the company’s orientation toward the rules, policies, and/or business process standards of supply chain partners. This ICB category also is indicative of behaviors that are directed toward the support of behavioral norms that exist within the supply chain. This category would include such behaviors as considering a supplier’s or customer’s policies when structuring agreements, adhering to customers’ quality and/or logistics standards, or voluntarily abiding by legislation impacting suppliers and/or customers so as not to cause problems.

Interorganizational constructiveness is a set of ICB’s that are grounded in the OCB civic virtue concept. This concept reflects the firm’s interest in, and activity related to, supply chain governance and/or other affairs affecting supply chain relationships. More so than others, this concept reflects
simply being a good “supply chain citizen,” including behaviors such as attending meeting related to laws or regulations impacting suppliers or customers, lobbying on behalf of them in order to gain favorable public action, and generally looking out for the interests of customers and/or suppliers when making public statements or appearances.

The final ICB category of interest, interorganizational advancement, includes interfirm behaviors aimed at improving common knowledge bases, relationships, and processes impacting multiple supply chain members. Based on the OCB concept of self-development (George and Brief 1992; George and Jones 1997), these ICB’s are directed at taking steps to constantly improve the operations of the supply chain and its members.

**HYPOTHESES**

Based on the conceptual framework presented in Table 1, we developed and conducted tests of four research hypotheses regarding the impact of interorganizational citizenship behaviors on the performance of individual firms participating in exchange episodes with buyers and suppliers in their supply chains. Later in the paper we also discuss the impact of interorganizational citizenship behaviors on overall supply chain performance.

Studies by Karambayya (1990), Podsakoff and MacKenzie (1994), Podsakoff et al. (1997), and Walz and Niehoff (1996) all found support for Organ’s (1998) premise that OCB is related to organizational performance. When viewed from an interorganizational perspective, similar results might be expected. Boyle et al. (1992) suggest that firm-level performance outcomes are determined in part by the influence placed on the firm by its supply chain partners through its interfirm relationships. This position is extended by Lambert, Cooper, and Pagh (1998), who note that the supply chain is not simply a chain of connected businesses, but a network of firms where each relies on each other for support. This type of support is engendered via ICB’s taking place among boundary personnel, who exhibit forethought in sacrificing the short-term interests of their firm in exchange for longer-term benefits (Kiessling, Harvey, and Garrison 2004). For example, firms practicing interorganizational tolerance or interorganizational loyalty behaviors may see slight performance dips in the short run due to the allocation of firm resources to the needs of the other firm or a similar forfeiture of immediate opportunities. However, these firms should expect longer term performance gains in excess of such dips due to lower relationship maintenance costs associated with less rigorous safeguarding and monitoring costs (Williamson 1975) as these activities engender added organizational trust. Hypotheses 1 and 2 focus on the impact of interorganizational tolerance and interorganizational loyalty on the performance of individual firms participating in interorganizational exchange.

**H1:** Interorganizational tolerance will enhance the (a) market performance and (b) financial performance of individual firms participating in interorganizational exchange.

**H2:** Interorganizational loyalty will enhance the (a) market performance and (b) financial performance of individual firms participating in interorganizational exchange.
Similarly, Hypothesis 3 addresses the impact of interorganizational altruism on the performance of individual firms. Altruism is conceptually parallel to the helping behavior dimension of OCB. Podsakoff et al. (2000) note that helping behavior has been identified as an important form of citizenship behavior by virtually everyone who has worked in this area. For example, MacKenzie et al. (1993) found altruism/helping significantly related to the overall performance evaluations of computer salespeople and insurance agents, respectively. Podsakoff and MacKenzie (1994) and Podsakoff et al. (2000) also found significant relationships between altruism/helping behavior and measures of the performance of office furniture makers, insurance agents, and insurance sales managers, respectively.

One manifestation of interorganizational altruism that has emerged in the recent supply chain literature and is of particular interest to this study is interfirm collaboration. Existing research on interfirm collaboration positions it as a formalized variety of altruism that is emerging as a way to reap long term relational and financial gains through helping-oriented relationships (Daugherty et al. 2006; Min et al. 2005). Other forms of interorganizational altruism may also emerge as firms continue to seek out ways to work together toward common goals. The third hypothesis thus predicts:

**H₃**: Interorganizational altruism will enhance the (a) market performance and (b) financial performance of individual firms participating in interorganizational exchange.

Hypothesis 4 addresses the impact of interorganizational compliance on the performance of individual firms in supply chains. Interorganizational compliance is conceptually parallel to the organizational compliance dimension of OCB. The reason that compliance is considered a citizenship behavior is that even though everyone is expected to obey organization rules, regulations, procedures and norms, some do not (Podsakoff et al. 2000). Hence, at the organization level, employees who follow all the rules all the time are considered to be good citizens.

At the interorganizational level, compliance focuses on strictly following the rules, policies, and processes of suppliers and/or customers. It also often entails meeting or exceeding the quality standards specified by customers. For example, some companies are bound by industry regulations or guidelines that dictate how product and/or packaging returns processes are to be managed (Stock 1998). When customers or suppliers who are not bound by such mandates assist their counterpart in adhering to the rules (for example, by providing pre-printed return labels or by repackaging recyclable waste in approved containers), they enhance their partner’s ability to remain in compliance, and may simultaneously initiate costs savings, positive publicity, etc. Stated in more general terms, interorganizational compliance may lead to enhanced economic and/or market outcomes for firms exchanging within the context of a supply chain interaction. Thus, the fourth hypothesis predicts:

**H₄**: Interorganizational compliance will enhance the (a) market performance and (b) financial performance of individual firms participating in interorganizational exchange.

Hypothesis 5 examines the relationship between the performance of ICB’s and relationship quality for the focal firm. This hypothesis represents the potential effects of a unique form of social exchange on the interfirm relationship, whereby one or both firms respond “in kind” to cues
or prompts emanating from the interorganizational citizenship of the other. As illustrated by Blau (1964), Homans (1958), and many others, actors in relationships are likely to seek reciprocity as they become increasingly dedicated to the relationship. Frequently, trust and commitment have been cited as payback currencies for social exchanges occurring within the business context (Morgan and Hunt 1994). Given that Morgan and Hunt (1994) posit that trust and commitment are primary indicators of the overall quality of a business relationship, it could be expected that the overall quality of an interfirm relationship will increase as ICB’s are increasingly enacted. Formally stated:

**H5: As ICB’s are increasingly practiced [(a) interorganizational altruism; (b) interorganizational tolerance; (c) interorganizational loyalty; (d) interorganizational compliance], relationship quality for the focal relationship will increase.**

Finally, the sixth hypothesis completes the causal nexus by addressing the association between relationship quality and the financial and market performance of the focal firm. At the organizational level of analysis, the OCB literature (Karambayya 1990; Organ 1988; Podsakoff and MacKenzie 1994; Podsakoff et al. 1997; Walz and Niehoff 1996) conceptually and empirically support the proposition that OCB’s are associated with organizational performance and success. Podsakoff et al. (2000) further discuss a variety of reasons why OCB’s might influence organizational effectiveness. These predictions are augmented through a review of the relationship marketing literature, which provides conceptual and theoretical underpinning for the notion that engaging in ICB’s will benefit firms practicing such behaviors. Morgan and Hunt (1994) define relationship commitment as “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it...indefinitely (p.23). They conceptualize trust as “existing when one party has confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt 1994, p. 23). Their research supported the notion that commitment and trust are associated with desirable relationship outcomes for focal firms and their partners. We extend this prediction to the interorganizational level of analysis in hypothesizing that:

**H6: Relationship quality is positively associated with (a) financial performance and (b) market performance.**

**METHOD**

**Data Collection and Sample**

In order to test the hypotheses, a two part data collection methodology was implemented. Because the ICB concept is new to the literature, the first stage focused on identifying and purifying measurement scales used to represent several of the proposed ICB’s. In the second stage of the process a complete dataset was collected, including refined ICB measures based on pre-test feedback, as well as performance outcomes. Each of these data collection stages utilized the Internet survey tool Zoomerang. Zoomerang is a subscription service that allows users to develop surveys, which are then emailed double-blind to a potential participant panel retained by Zoomerang, with respondents being known a priori to possess characteristics that meet the user’s requirements. Zoomerang recruits survey participants using online tools as well as sending direct mail participation pieces targeted to
specifically identified response groups, including businesspeople. By so doing, Zoomerang allows users to create customized response panels suitable for academic or market research purposes.

The use of internet panels in academic research has sometimes been criticized due to suspicions that panels do not provide a generalizable representation of overall target populations. However, because Internet usage has increased prolifically in recent years, this cause for concern has rapidly diminished. Research has shown that the use of internet panels does not lead to negative or biased results, and results from panel surveys do not differ significantly from those collected through random mail samples, provided that the target population holds the requisite competencies needed for effective response (Dennis 2001; Pollard 2002). In the current survey of boundary spanning employees, Zoomerang was able to provide a large population of qualified potential respondents from which to draw samples for item development and hypothesis testing.

Data Collection Phase One

During the first stage of data collection, a survey was designed solely for the purposes of identifying and purifying scale measures representing ICB’s. To this end, the three-part procedure advocated by Hinkin (1995) for “best practices” in scale development, including item generation, scale development, and scale evaluation, was strictly followed. The survey items tapping ICB’s were based on prior literature and input and suggestions taken from a panel of 25 executives participating in an academic forum. Surveys containing the plausible ICB measurement items were sent to a broad population of 800 business owners across the United States as identified by Zoomerang. To qualify the business owners for participation, potential respondents were first asked if they personally interacted with their organization’s key supplier or customers, as this is a necessary criterion for the assessment of ICB’s. Respondents failing to meet this criterion were not invited to complete the survey. Thus, the skip question allowed the researchers to gather data directly from individuals who might engage in ICB’s, while filtering out others.

Of the 800 respondents, 95 responded negatively to the aforementioned skip question and were therefore excluded from further consideration, leaving a sample population of 705 from which to draw item purification measurements. Of the retained population members, 208 completed a pre-test survey. However, 13 surveys were unusable due to excessive missing values, leaving 195 usable pre-test surveys, thus yielding a response rate of 27.6% for scale development. The pre-test sample was comprised of respondents from a variety of industries and organizations of varying sizes (from 1 to 100,000 employees), serving as evidence of generalizability according to firm size.

Initial Item Measurement

The items used to tap the study variables - ICB’s, relationship quality, and financial and market performance - were adapted as closely as possible from those used in prior research. The unit of analysis was constrained to a single important supplier relationship as determined by the respondent. The retail respondents were prompted to refer to and keep in mind a “key supplier or key customer relationship” when responding to all ICB and relationship quality questions. Thus, the items were constructed such that they referred to this relationship specifically, using language such as “in this relationship” and “for this supplier.”

In the pre-test stage, four different ICB’s were measured using scales adapted from the OCB literature: Interorganizational tolerance items were created based on OCB scales tapping sportsmanship behaviors (Organ 1988) and interpersonal facilitation (van Scotter and Motowildo 1996). Inter-
organizational altruism scales were created based on OCB scales tapping helping behaviors (Graham 1991) and individual altruism (Organ 1988; Smith, Organ, and Near 1983). Interorganizational loyalty items were created based on OCB scales tapping organizational loyalty (Graham 1991) as well as Moorman and Blakely’s (1989) notion of boosterism, i.e., the promotion of an image to outsiders. Interorganizational compliance was measured based on earlier work by Graham (1991) in the area of organizational obedience, as well as an item reflecting the following of rules and procedures adapted from Borman and Motowildo (1997). In addition to the ICB scales, measures of relationship quality (a second-order measure reflecting both interorganizational trust and commitment) and financial and market performance were included as hypothetical outcomes. These were adapted from the works of Morgan and Hunt (1994) and Morgan and Piercy (1998), respectively. The ICB and relationship quality items were formatted as 1-7 Likert-type scales assessing level of agreement that ICB’s are enacted or relationship quality facets are present (1 = strongly disagree; 7 = strongly agree). The performance indicators were formatted as comparisons with main competitors (1 = very low in comparison; 7 = very high in comparison).

ICB Scale Development

Using the scale development sample, the psychometric properties of four of the hypothesized ICB’s were evaluated, and scales were refined for use in the second survey following Hinkin’s (1995) suggestions. All four proposed ICB measurement scales (as later described) were refined based on this step. Next, the revealed scales were examined for criterion, discriminant, and convergent validity. To evaluate the focal constructs, exploratory factor analysis was first executed using LISREL 8.72. The EFA included all ICB measurement items. Based on the EFA, items were removed from further analysis due to significant cross-loading on multiple ICB factors. Following this adjustment, confirmatory factor analysis was used to assess the revised ICB scale properties and financial and market performance scales, as well as to assess the two first-order structures that comprise the relationship quality construct. The CFA results are included in Table 2. Scale reliability coefficients were above the commonly accepted standard of 0.60 as suggested by Nunnally (1978) and Fornell and Larcker (1981). The measurement model confirmed the presence of four unique ICB constructs, as well as the three expected outcome measures. Overall model fit statistics of RMSEA (.066), CFI (.895) and NFI (.870) indicate satisfactory fit between the model and data. The final scales used to measure the ICB constructs, as well as the relevant performance variables, are included in the Appendix.

Data Collection Phase Two

Using the purified ICB scales, a second data collection was executed to provide data for the purposes of hypothesis testing. Surveys were again sent to respondents who were thought to have interacted with key suppliers and thus who might have used or been exposed to ICB’s. In this instance, respondents were procurement professionals working in the retailing industry sector only. This sample was discovered to be an appropriate frame during the first pretest phase due to high incidence of personal interaction with manufacturers (and therefore potential exposure to ICB’s). Additionally, by drawing from a single echelon of the supply chain, it was possible to control for potential ICB effects stemming from the firm’s supply chain role. Again, respondent surveys were disregarded if they did not respond affirmatively to a skip question that tapped whether they work with their key supplier directly.
During the second stage of data collection, a larger sample was desired in order to execute hypothesis testing, and so a total of 1429 procurement professionals were invited to preview the survey. Of these, 318 responded affirmatively to the skip question and completed the full survey. After examining the dataset, 20 of the surveys were removed because the respondent posted all neutrals or responded with extreme outliers (i.e., only using scale endpoints), leaving 298 usable surveys and yielding a usable response rate of 20.85%.

**TABLE 2**

**CONFIRMATORY FACTOR ANALYSIS AND SCALE RELIABILITIES**

<table>
<thead>
<tr>
<th>Item</th>
<th>IALT</th>
<th>ITOL</th>
<th>ILOY</th>
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<tbody>
<tr>
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<td>.838</td>
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<tr>
<td>ICB2</td>
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*Scale Alpha* .847  .702  .734  .916

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<th>Item</th>
<th>MP</th>
<th>FP</th>
<th>RQ_C*</th>
<th>RQ_T*</th>
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<td>MP2</td>
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<td>MP3</td>
<td>.607</td>
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<td>.911</td>
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<td>RQ6</td>
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<td>.872</td>
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*Scale Alpha* .806  .920  .922  .969

Composite reliability for second-order RQ construct: .851

* RQ_T represents the trust measure; RQ_C represents the commitment measure of relationship quality.
Sales volume and firm size by employee characteristics of the respondents’ firms are shown in Table 3. The respondents’ firms are highly variable in size as measured both by annual sales and number of employees. These characteristics, in addition to the pre-qualification step (i.e., skip question) reveal a broad array of qualified respondents in the retailer sample frame, and thus the analysis was continued.

**TABLE 3**

**RESPONDENT FIRM CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Annual Sales</th>
<th>&lt; $100K</th>
<th>$100K - $500K</th>
<th>$500K - $1MM</th>
<th>$1MM - $10MM</th>
<th>$10MM - $100MM</th>
<th>&gt; $100MM</th>
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<tr>
<td>Firms*</td>
<td>70</td>
<td>33</td>
<td>13</td>
<td>27</td>
<td>21</td>
<td>11</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>100-1,000</td>
<td>1,000-5,000</td>
<td>5,000-10,000</td>
<td>10,000-100,000</td>
<td>&gt; 100,000</td>
<td></td>
</tr>
<tr>
<td>Firms**</td>
<td>194</td>
<td>33</td>
<td>29</td>
<td>11</td>
<td>20</td>
<td>4</td>
</tr>
</tbody>
</table>

* 123 respondents did not report  ** 7 respondents did not report

**Outcome Measures**

Three outcome measures are of interest in the current study: relationship quality, financial performance, and market performance. A second-order term representing relationship quality was first created by constructing a variable consisting of the relationship quality trust and commitment measures, resulting in six total items (composite alpha = .851). In addition to relationship quality, financial performance and market performance were also measured as outcome variables. Financial performance is conceptualized in the current study as a reflective outcome composed of relative ROA, average profitability per customer (current) and anticipated average profitability per customer (future), as per Morgan and Piercy (1998) (alpha = .920). Market performance is defined as relative performance on consumer-related outcomes, and is conceptualized as having multiple dimensions including relative market share, sales growth, and customer retention, also as per Morgan and Piercy (1998) (alpha = .806).

**Bias Analyses**

The sample was mean-split based on each of the descriptive firm size variables included in Table 3, and MANOVA was performed to assess differences based on firm size using each measure. No significant effects were revealed. Additionally, the first and last respondent quartiles were compared to assess non-response bias, with no differences found based on response sequence (Armstrong and Overton 1977). Based on these tests, the results of subsequent testing can be evaluated with greater confidence that biases related to non-response and firm size do not negatively impact the study results.
HYPOTHESIS TESTING AND RESULTS

The hypotheses were tested using partial least squares modeling (PLS) as developed by Wold (1982). PLS has increased in popularity in recent years as an alternative to traditional structural equations modeling, for use in situations where multivariate analysis is desirable but constructs of interest are immature. Whereas structural equation modeling (SEM) is preferred for theory testing and evaluation, PLS is better suited for explaining or examining newly-found constructs and relationships (Fornell, Lorange, and Roos 1990). Unlike SEM, which employs both factor analysis and regression in fitting a model to data, PLS seeks to discover fundamental relationships between dependent and independent matrices via iterative regression (e.g., covariance) modeling. As is done here, the researcher uses a PLS software package to specify the residual variances to be minimized within a system of equations, and the program accomplished the estimation using an iterative procedure in which each step involves a minimization of residual variance with respect to a subset of defined parameters, given a fixed-point constraint of the other parameters. Given this modeling approach, PLS thus offers a number of advantages for the current research: (1) measurement paths for both first- and second-order scales are estimated; (2) PLS does not suffer from indeterminacy problems like other causal modeling techniques (e.g., covariance analysis techniques using EQS or LISREL); and (3) PLS is a nonparametric technique and, therefore, does not assume normality of the data, which is often a useful benefit in a study where less mature measurement scales are employed (Wold 1982).

Using PLSGraph 3.0 software, a model was estimated with the four ICB constructs positioned as antecedents to relationship quality, financial performance, and market performance, as stated in the hypotheses. The results are reported in Table 4. In PLS analysis, the Stone-Geisser (SG) test of predictive relevance is generally used in assessing model fit. The SG involves the iterative removal of single cases and subsequent prediction of the omitted values based on the remaining parameters, yielding a Q2 statistic which reflects how well observed values are reconstructed by the model and estimates (Chin 1998), i.e., a jackknifed version of R2. All of the Q2 statistics for the current model are positive, indicating that the posited model has predictive relevance, as per Dijkstra (1983). Individual parameters are evaluated for significance by comparing the path estimate to the standard error for each, using a jackknife technique, also as recommended by Dijkstra (1983). Using this method, twelve of the fourteen hypothesized paths were found to be significant.

Specifically, as shown in Table 4, three of the four examined ICB’s exhibit significant effects on the outcome variables of interest. First, Interorganizational Altruism, Loyalty, and Compliance are associated with both Market and Financial Performance increases at the firm level, supporting both parts of the second, third, and fourth hypotheses, respectively. With respect to the first hypothesis, results are mixed; Interorganizational Tolerance is positively associated with Market Performance (H1a), but there is no significant relationship with Financial Performance (H1b). In summary, with one exception, it appears that firms’ willingness and ability to enact selected ICB’s in interorganizational relationships are associated with positive financial results and performance advantages versus competitors.

In addition to the linkages revealed between ICB’s and performance, the study also sought to explore whether other “soft” benefits accrue to firms whose boundary employees practice ICB’s. This possibility is assessed with the fifth hypothesis, which predicts an association between ICB’s and enhanced relationship quality. Three of the four ICB’s under examination were found to be positively
associated with relationship quality, with H4a, H4c, and H4d being supported. Interorganizational Tolerance (H4b) was again the exception. This result, in combination with the lack of support for Hypothesis 1b, raises questions about the plausibility of the Interorganizational Tolerance behavior as an effective symbiotic mechanism for improving interorganizational exchange, a contingency that is addressed in the conclusions section of this article.

Finally, completing the nexus of associations related to the effectiveness of ICB's, the study also sought to ascertain whether the softer relationship quality measure could potentially yield more concrete benefits. The sixth hypothesis predicted a positive association between relationship quality and market performance (H5a) and financial performance (H5b).

**TABLE 4**

**IMPACTS OF ICB'S ON RELATIONSHIP QUALITY AND PERFORMANCE**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>DV: Relationship Quality</th>
<th>DV: Market Performance</th>
<th>DV: Financial Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interorganizational Altruism</td>
<td>.136** (.002)</td>
<td>.190* (.005)</td>
<td>.341* (.006)</td>
</tr>
<tr>
<td>Interorganizational Tolerance</td>
<td>-.042 (.012)</td>
<td>.162* (.005)</td>
<td>.031 (.006)</td>
</tr>
<tr>
<td>Interorganizational Loyalty</td>
<td>.182* (.013)</td>
<td>.154** (.006)</td>
<td>.249* (.006)</td>
</tr>
<tr>
<td>Interorganizational Compliance</td>
<td>.389* (.011)</td>
<td>.251* (.002)</td>
<td>.192* (.005)</td>
</tr>
<tr>
<td>Relationship Quality</td>
<td>---</td>
<td>.185* (.025)</td>
<td>.137* (.028)</td>
</tr>
</tbody>
</table>

*Note: Standard errors are in parentheses.*

*Significant to $p < .05$

**Significant to $p < .10$**

As expected based on the extant literature, the results sustain effects for relationship quality on both of the “harder” performance outcomes, thus replicating prior research assessing the value of creating and maintaining high quality relationships characterized by interorganizational trust and commitment.
MANAGERIAL IMPLICATIONS

What are the managerial implications of adopting ICB’s within a supply chain setting? First, since interorganizational altruism, loyalty, and compliance were found to be positively related to both market performance (enhanced competitiveness) and financial performance (increased profitability), this information should be integrated into training programs specifically designed for boundary spanning employees. Both sales and procurement personnel, i.e., those employees who are best positioned to leverage ICB’s for the benefit of their firms, should be made aware of the potential outcomes of performing ICB’s, and training sessions should be devoted to the specific types of practices (listed in the Appendix) that best elicit desirable relationship benefits. In particular, both company- and university-based training programs could include ICB modules that focus on behaviors that are best suited to specific interorganizational settings. Recalling the assertions of Rinehart et al. (2004) and Golicic and Mentzer (2005), who posit that relationship structures be constructed such that the “return” on each relationship is optimized, ICB’s may represent a central tactical initiative through which relationships can be designed to provide specific desired performance outcomes.

A second implication for managers stemming from the findings is related to the distinction between ICB’s and boundary spanner “in-role” behaviors. Specifically, there is evidence that employees (and thereby, boundary personnel) tend to resist undertaking job-related actions that they perceive to be outside of their assigned job role (Organ 1988). Given that ICB’s are discretionary by definition, and that boundary personnel are therefore neither formally rewarded for enacting such behaviors nor will they tend to observe the positive benefits of ICB’s in the short-term (Morrison 1994), supply chain managers may find that their employees initially view ICB’s with suspicion and/or apathy, or in the case where the employee does understand the potential benefits, fail to appreciate the full potential impact of ICB’s on both firm-level outcomes as well as improvements in relationship quality. Thus, care should be taken to explain the medium- and longer-term benefits of enacting ICB’s, and if possible, attempt to link these behaviors to the company’s compensation and/or reward structure.

There is significant evidence within the OCB literature that for citizenship behaviors of any type to be effective in generating desirable organizational outcomes, their effect must be aggregated, i.e., sustained over time and context, and preferably by multiple employees (Organ 1988). In the ICB setting, we similarly find that the quality of boundary spanner relationships is likely to increase as the result of altruism, tolerance, and compliance. Thus, the supply chain manager is faced with a challenge in determining how to create an enduring organizational culture inclusive of these extra-role behaviors. Though a complete examination of corporate culture is beyond the scope of this research, fundamental tenets of cultural dynamics are worthy of investigation, including considerations such as how to adapt beliefs of current employees, and how to identify ICB-compatible characteristics in future employees through the firm’s recruitment and hiring processes. Though future research will be required to assess the extent to which ICB’s are “learned” versus innately developed skills, it may be necessary to better utilize hiring processes, especially in organizations that are skeptical of the value of ICB’s, to effectuate the requisite change in firm culture that will best permit the realization of desired outcomes.

While the results indicate that interorganizational altruism, loyalty and compliance are positively related to performance outcomes, interorganizational tolerance failed to render similar results. With interorganizational tolerance, only market performance was shown to be positively effected;
relationship quality and financial performance were not similarly improved. This may be because interorganizational tolerance represents a passive reaction to other firms’ inadequacies rather than an active behavior intended to overcome such inadequacies. This passive behavior may prohibit the firms’ relationship from achieving bilateral trust and commitment and/or optimizing resources to obtain maximum financial performance.

**RESEARCH AGENDA AND CONCLUSIONS**

There are a wide range of opportunities to expand our knowledge of ICB’s. For example, what are the antecedents and outcomes of ICB’s? How does the impact of ICB’s vary depending on relationship type, magnitude, strength and structure? Are there mediating or moderating variables that influence the impact of antecedents on ICB’s on the effects of ICB’s on performance outcomes? To what extent do managers weigh ICB’s when evaluating individual boundary spanners performance? What diagnostics can be used to identify individuals most likely to engage in ICB’s? Fortunately, the OCB literature is replete with research ideas, measurement scales, protocols and findings that may or may not apply in supply chain settings.

Because this study was conducted with Purchasing professionals in the retail sector, future research should also examine the causes and effects of ICB’s in multiple settings in order to better establish generalizability. In particular, analysis from the sales side of the buyer-seller relationship, and/or a balanced approach using dyadic matched pairs may yield interesting findings. Furthermore, the current research did not examine the full range of ICB’s that may be useful in practice – the inclusion of interorganizational conscientiousness, constructiveness, and/or advancement may render noteworthy results.

There is a large body of research examining the importance of business to business relationships, and the antecedents and outcomes of business to business relationships. This research extends the existing literature by applying a firm level theory of non-coercive behavioral modification to interorganizational relationships. The examination of ICB’s is relevant because it evaluates discretionary behaviors of key players in such relationships. Our analysis of such behaviors supports a more symbiotic form of relational governance than had previously been considered as a primary vehicle for achieving positive firm and supply chain outcomes. The findings from the current research provide a foundation for managers to develop new hiring, training, and evaluation protocols for boundary personnel, and for researchers to further investigate the extent to which ICB’s affect firm and supply chain outcomes.
APPENDIX

SCALE MEASUREMENT ITEMS

ICB1: We accept the inevitable mistakes that our supplier sometimes makes without complaining.*

ICB2: When our supplier is unable to fulfill certain responsibilities, we try to be understanding.*

ICB3: We accept occasional inconveniences associated with dealing with our supplier as simply a part of doing business.*

ICB4: We go out of our way to help our supplier with business related issues if we sense that they are in need.*

ICB5: We provide assistance to our supplier if they ever have a problem in an area where we have expertise.*

ICB6: We sometimes volunteer our resources in order to lighten our supplier’s workload.*

ICB7: We tell others that our supplier is a good company with which to do business.*

ICB8: We sometimes sacrifice our own best interests in order to provide additional benefits to our supplier.*

ICB9: We promote our supplier’s products/services to others.*

ICB10: We attempt to meet or exceed any standards that our supplier is also required or expected to meet.*

ICB11: When dealing with our supplier, we comply with expected standards of social behavior.*

ICB12: We show respect for our supplier’s business policies and try to abide by them ourselves.*

RQ1: The relationship that my firm has with our supplier is something that we are very committed to.*

RQ2: The relationship that my firm has with our supplier is something my firm plans to maintain indefinitely.*

RQ3: The relationship that my firm has with our supplier deserves our maximum effort to maintain.*

RQ4: In this relationship our supplier can be trusted at all times.*

RQ5: In this relationship, our supplier can be counted on to do what is right.*

RQ6: In this relationship, our supplier has high integrity.*

MP1: Compared to our main competitor, our market share is…**

MP2: Compared to our main competitor, our customer retention is…**

MP3: Compared to our main competitor, our sales growth is…**

FP1: Compared to our main competitor, our current ROI is…**

FP2: Compared to our main competitor, our current average profits per customer are…**

FP3: Compared to our main competitor, our anticipated average profit per customer is…**

* Measured using 7-point Likert scales with 1 = strongly disagree and 7 = strongly agree

**Measures using 7-point Likert scales with 1 = very low and 7 = very high
NOTES


ABOUT THE AUTHORS

Chad W. Autry (Ph.D. The University of Oklahoma) is an Assistant Professor of Supply Chain Management at TCU. His prior research has appeared in the *Journal of Business Logistics*, *The International Journal of Logistics Management*, *Journal of Retailing*, and several other leading publications. His current research interests include supply chain networks and strategies, and supply chain security.

Lauren R. Skinner (Ph.D. University of Alabama) is an Assistant Professor at The University of Alabama at Birmingham. Her research interests focus on supply chain management, retail supply chains, services within the retail supply chain, and retailing pedagogy. Her prior research has been published in *Journal of Personal Selling and Sales Management*, *Journal of Business Research*, and *Marketing Education Review*, and has been presented at numerous academic conferences.

Charles W. Lamb (Ph.D. Kent State University) is the M.J. Neeley Professor of Marketing and Chair of the Department of Information Systems and Supply Chain Management at TCU. His research has appeared in the *Journal of Marketing Research*, *Decision Sciences*, *Journal of the Academy of Marketing Science*, *Journal of Business Logistics* and elsewhere. He is also a co-author of three books, *Marketing, 9th ed.*, *Essentials of Marketing, 6th ed.*, and *Marketing.*