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Regulating B2B online reverse auctions through voluntary codes of conduct

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Abstract

In response to real and perceived abuse by market makers, buyers, and sellers, some industry trade groups representing suppliers have developed voluntary codes of conduct, white papers, and other forms of guidance for online reverse auction participants. The intent of these guidelines is to improve both the reverse auction process and relationships between buyers and sellers. This paper examines the rationale for creating guidelines and codes of conduct, and examines their efficacy in regulating reverse auctions to achieve improved outcomes for market makers, buyers, and sellers. Data from primary and related secondary sources indicate that industry-specific codes of conduct and guidelines have not had a favorable impact.

Keywords: e-Business; Codes of conduct; Reverse auctions; Purchasing; Supply management

1. Introduction

Business-to-business (B2B) online reverse auctions, also called "e-reverse auctions" or simply "reverse auctions," have become a common method to source production and non-production goods and services by Fortune 2000 companies since 1995 (Richards, 2000; Tully, 2000). Widespread use of this tool by buyers is of great concern among incumbent suppliers due to potential negative outcomes such as margin erosion and loss of sales volume to other suppliers (B2BRC, 2003; Berning & Flanagan, 2003; Emiliani, 2000; Emiliani & Stec, 2002a; Kobe, 2001; Leonard, 2004; MHEDA, 2003; Stein, Hawking, & Wyld, 2003; Tulder & Mol, 2002). Additional incumbent supplier concerns relate to whether or not buyers and the "market makers"–companies that provide reverse auction services–give adequate consideration to other important factors such as quality, service, technology, or production capabilities (Bartholomew, 2001, 2002; Brindley, 2000) or total costs (Emiliani & Stec, 2001, 2002a, 2004, 2005b).

Previous studies have shown that reverse auctions–with rare exception; e.g. purchase of industry standard commercial goods (Smart & Harrison, 2003)–damage supplier relationships and create distrust among incumbent suppliers (B2BRC, 2003; Beall et al., 2003; Emiliani & Stec, 2004, 2005b; Jap, 2001, 2003; MHEDA, 2003; Smeltzer & Carr, 2003). There is a widespread perception among incumbent suppliers that reverse auctions are not fair and have been abused by buyers and market makers (Brindley, 2002a; EU, 2004; Glimm, 2003; Morris, 2003). It has been characterized as an unfair bidding process used by large corporations as a substitute for poor purchasing practices (Brindley, 2002b; Emiliani & Stec, 2002a, 2002b). In addition, the value proposition for incumbent suppliers, to this day, remains un-addressed, save for the coercive threat of losing business (Emiliani & Stec, 2002b, 2004, 2005b; Leonard, 2004; Richards, 2000; Stein et al., 2003; Tulder & Mol, 2002). New suppliers, of course, stand to gain important business from new customers, provided they understand customer requirements, their costs, and do not underbid.

Previous studies of simple and complex commodities have also shown that the benefits of reverse auctions for

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both buyers and suppliers do not exist or have been greatly overstated by market makers and buyers (CLBM, 2004; Emiliani & Stec, 2002a, 2004, 2005b). For suppliers, they purportedly include:

- Reduce operating, selling or customer acquisition costs
- Improve buyer–seller relationships
- Compete on a level playing field
- Access to new customers
- Increase sales
- Access to new markets.

While for buyers, they purportedly include:

- Fast return on investment
- Achieve quick savings
- Obtain market price
- Reduce sourcing cycle time from weeks to hours
- Streamline the sourcing process
- Make better buying decisions
- Improve supplier relationships.

In most cases reverse auctions over-promise and under-deliver, whether for complex custom or simple standard goods or services. Not surprisingly, the outcome is:

- The poor financial performance of leading market makers (Ariba, 2004; Butters & Bennett, 2002; Kisiel, 2002a, 2002b, 2003; Ryan, 2003),
- Closure, merger, or sale of market makers such as CommerceOne, Cordiem, Covisint, eScout, FreeMarkets, and PurchasePro (Barlas, 2004, 2004a; Ericson, 2003, 2004)
- Reverse auctions are typically used for less than 15% of total corporate purchases (Beall et al., 2003)
- Flat or declining use of reverse auctions among large industrial buyers (Hannon, 2003a)
- Declining levels of supplier participation (Emiliani & Stec, 2004, 2005b).

Despite this, senior managers of many Fortune 2000 corporations continue to believe in the efficacy of reverse auctions to reduce unit prices (Emiliani & Stec, 2005b; FreeMarkets, 2003; Grant, 2003; Judge, 2001; Reason, 2001). That is partly because the common metric used to determine unit price savings–purchase price variance–is easily gamed (Emiliani, Stec, & Grasso, 2004). Accurate measurement of total cost would reveal that reverse auctions, in most cases, yield unfavorable results (Emiliani & Stec, 2002a).

Reverse auctions have been shown to be a technologically assisted form of power-based bargaining (Carbone, 2004; Emiliani, 2003, 2004; Emiliani & Stec, 2001, 2002a, 2002b, 2004, 2005b; Jap, 2001, 2003; Stein et al., 2003; Tulder & Mol, 2002). As such, it is subject to abuse principally among buyers and market makers (Beall et al., 2003; OESA, 2002; Sawhney, 2003). The different forms of abuse include:

- Ambiguous or shifting auction rules
- Threatening incumbent suppliers to bid or risk losing the work
- Changing contract terms and conditions between RFQ and award
- Phantom bidding (buyer or market maker pretends to be a supplier)
- Drive down unit prices with no intention of switching sources
- Allowing unqualified suppliers to bid
- Showing the identities of the bidders and their bids
- Post-auction renegotiation
- Awarding only portions of the items in a bid package
- Forcing supplier to honor unreasonably low prices
- Providing incomplete or inaccurate specifications
- Allowing specification relief to winning bidders
- Including internal departments as bidders
- Repetitive re-bidding to drive down prices
- Not informing bidders of outcomes.

However, new and incumbent suppliers could also abuse reverse auctions by:

- Not abiding by auction rules
- Not adhering to request for quote parameters
- Placing bids with no intention of honoring them
- Bidding when the supplier is in fact unwilling or unable to assume the business if it were awarded to them
- Known inability to meet contract terms and conditions
- Collusion (legal or illegal, depending upon country laws)
- Win new business and charge high prices for "extras".

This has resulted in the creation of voluntary guidelines of conduct for buyers, sellers, and market makers in the U.S. auto industry (OESA, 2002), the European aluminum foil industry (EAFA, 2002), the European flexible packaging industry (EF, 2002), European carton makers (ECMA, 2003), European wire and cable makers (EPC, 2003), Canadian general contractors (CCA, 2001), and British aerospace companies (SBAC, 2003).

It has also resulted in the creation of "white papers" for general contractors in the United States (AGC, 2003), manufacturers of housewares (IHA, 2002), and printers (Stoddard, 2003). In addition, eleven European packaging-related trade associations endorse the European flexible packaging industry code of conduct (EF, 2002). Industry-specific codes of conduct and white papers vary in structure and content, but all share the same basic objective: to help ensure that reverse auctions are used in a manner that supports fair trade and improves trust between market makers, buyers, and sellers.

Non-industry specific recommendations on how to correctly use or improve reverse auctions have also

appeared in the business and trade press (Brindley, 2000; Dougherty, 2002; Goetting, 2002; Sawhney, 2003; Terry, 2002), and in papers written by academics (Beall et al., 2003; Daly & Nath, in press; Smeltzer & Carr, 2003; Wagner & Schwab, 2004). These recommendations are separate from voluntary industry-specific codes of conduct or guidelines, and simply illustrate other means by which potential improvements opportunities have been expressed.

This paper examines industry-specific codes of conduct and guidelines intended to eliminate different forms of abuse or improve the integrity of reverse auctions among its participants: market makers, buyers, and sellers. It explores the general nature of the codes of conduct and guidelines, and questions if outcomes designed to diminish power-based bargaining by buyers can indeed be achieved by this means. Findings highlight the challenges faced by market makers and buyers to reduce the many problems associated with reverse auctions. Also briefly presented is an alternative to power-based bargaining that has been shown to result in improved bilateral competitiveness (Dyer & Nobeoka, 2000; Fujimoto, 1999; Liker & Choi, 2004; Nishiguchi, 1994; Nishiguchi & Beaudet, 1998; Womack, Jones, & Roos, 1990).

2. Trade association intervention

Responses by incumbent sellers to the threat of online reverse auctions hosted by their customers have taken several forms. On an individual level, some suppliers simply refuse to participate. Others limit their participation by placing one or two bids early in the bidding cycle, then exit the bidding event. Still other suppliers, after one or two years of participation, become disappointed with the results and drop out. Recent studies of aerospace machined parts and wood pallet suppliers have shown that many will seek customers that do not use reverse auctions (Emiliani & Stec, 2004, 2005b). Evidence suggests these responses are driven by the perception that reverse auctions constitute an expansion of destructive power-based bargaining routines, exploitation of market power, devaluation of non-price factors, and unfair or unethical trade practices (Emiliani & Stec, 2004, 2005b).

The same response occurs on a collective basis among suppliers within a given industry segment. If the industry segment has representation through a trade association, then suppliers may engage its support to develop rules and expectations for reverse auction participants. In general, trade associations state that they support either electronic or traditional sealed bidding to improve the efficiency of tendering processes and promote competition. However, reverse auctions are, in many ways, a significant departure from traditional bidding processes, and have compelled some trade associations to take action. Industry-specific "white papers" are intended to frame the issues, share the results of studies, declare facts or positions, identify challenges, offer guidance to buyers, and suggest opinions or alternatives regarding suppliers' response to reverse auctions (AGC, 2003; IHA, 2002; Stoddard, 2003).

For example, the Associated General Contractors of America's white paper judges many of the claims made by proponents of reverse auctions as unproven with regards to the procurement of general contracting services, and includes the following positions (AGC, 2003):

- Reverse auctions seldom provide benefits compared to current sealed bidding practices
- Reverse auctions may encourage imprudent bidding
- Reverse auctions do not guarantee lowest price nor a thorough evaluation of value
- Reverse auctions may contravene Federal or State procurement laws, particularly with regards to disclosing contractor price information.

The Canadian Construction Association is more explicit in its disdain of reverse auctions, which it "strongly opposes" (CCA, 2001). It presents the case why reverse auctions should not be used for construction projects. Guidance to owners (i.e. buyers) and contractors (i.e. sellers) highlights the benefits of traditional sealed bid practices and the shortcomings of reverse auctions, particularly with regards to fairness. Importantly, it notes that "Reverse auctions may be governed by the laws of the location of the auction's service provider, which is often remote from the actual construction project's or owner's location." In other words, Canadian owners and contractors could be bound by U.S. Federal or State laws in which the reverse auctions are held, which could complicate the fulfillment of contract terms and conditions or the resolution of disputes. Owners and contractors are "...encouraged to follow the prevailing, recommended practices of construction procurement in Canada" and reminds contractors "...that a reverse auction will not take place unless bidders agree to participate!"

The International Housewares Association's white paper, in contrast, "...is solely intended to make IHA members more knowledgeable about the reverse auction process to enable them to decide on an individual basis whether or not to participate and to make them more effective participants" (IHA, 2002). It identifies "potential benefits" and "potential challenges" for buyers and sellers, and provides information on how to prepare for a reverse auction, participate in a reverse auction, and manage post-auction activities in order to avoid problems. Importantly, it highlights "supplier value-added functions" for manufacturers and distributors of housewares products, such as customer support, variety, delivery terms, collaborative product design, and in-store merchandising support, and recommends that retailers should consider these functions when qualifying suppliers for reverse auctions. It also

provides guidance for retailers contemplating the use of reverse auctions.

An alternative route is to create a "Code of Conduct" or "Guidelines for Conduct" that explicitly state the rules for engagement for reverse auctions (EAFA, 2002; ECMA, 2003; EF, 2002; EPC, 2003; OESA, 2002; SBAC, 2003). These documents are usually much shorter than white papers, typically 1–5 pages, and summarize the expected behaviors and actions of market makers, buyers, and sellers. They typically describe rules for:

- Transparency of bidders
- Acceptance criteria
- Specifying goods or services
- Terms and conditions
- Security and confidentiality
- Supervision
- Auditing.

The primary areas of concern related to buyers include (OESA, 2002):

- Using reverse auctions to obtain market data, with no real intention of awarding the work to bidders
- Accepting bids from suppliers that are not qualified to do the work
- Making side-deals, where work is awarded to bidders that did not participate in the reverse auction
- Not advising reverse auction participants of the outcome in a timely manner
- Not awarding the work as quoted—e.g. unbundling lots and partial lot awards
- Not disclosing if the buyer's internal operations are bidding on the work.

The primary areas of concern related to sellers include (OESA, 2002):

- Participating in reverse auctions with no real intention to assume the business
- Not honoring quoted prices
- Not honoring other parameters contained in the request for quote.

The guideline developed by the automotive Original Equipment Suppliers Association is noteworthy because it was created with the participation of three market makers: B2eMarkets, Covisint, and FreeMarkets (OESA, 2002). The guidelines "...were developed due to a variety of concerns about the conduct of both buyers and sellers during the reverse auction process," while the intent of the guidelines "...is to provide a framework within which buyers and sellers can conduct and participate in a fair and equitable electronic procurement auctioning process." It describes "responsibilities and commitments" for buyers, sellers, and market makers. It is interesting to note that eleven points are presented in over two pages regarding "Buyers Responsibilities and Commitments," indicating that abuse by buyers has been significant or perceived to have been significant. In contrast, "Sellers Responsibilities and Commitments" contain just three points in less than one page, indicating that they have little power.

A recent opinion survey found that buyers, sellers, market makers, and trade associations think that codes of conduct would be helpful for improving trust and building confidence between auction participants (EU, 2002). However, the true effectiveness of white papers and voluntary codes of conduct on modifying the activities of market makers, buyers, and sellers has not yet been studied or reported in the literature. Voluntary conformance typically means there is no official data collection mechanism that can be used to determine the effectiveness of codes of conduct. Details contributing to favorable results, if any have been achieved, likely remain proprietary.

Despite this limitation, a preliminary conclusion can be drawn based upon data from secondary sources cited previously: i.e. the poor financial performance of leading market makers; closure, merger, or sale of market makers; reverse auctions remain limited to a small fraction of total corporate purchases; flat or declining use of reverse auctions among large industrial buyers; and declining levels of supplier participation. If voluntary codes of conduct were effective at improving fairness and trust, then one would expect reverse auction activity to increase and reverse these unfavorable trends. It appears, however, that industry-specific white papers and codes of conduct have had no positive effect in the 2–3 years since most were created. It is possible that improvement has yet to be realized because it takes time for reverse auction participants to fully comprehend how to use the guidelines.

However, the very fact that industry-specific codes of conduct and guidelines have been created indicate that reverse auctions are a contentious purchasing tool and suffer from many serious shortcomings in actual practice. In every case, they are created in response suppliers' concerns. Industry-specific codes of conduct and guidelines are unlikely to have much positive impact if they appear one or two year years after reverse auctions are first used in a given industry segment. In other words, it may be too late to undo the damage caused by the initial wave of reverse auction activity in a given industry segment.

Industry-specific codes of conduct and guidelines have been the principal form of collective corrective action in response to actual and perceived abuses. However, given that abuse is a real threat to the integrity of reverse auctions,–and possibly the market making industry's livelihood–and that codes of conduct are important to some industry groups, it is surprising that market makers have not worked together to develop a standard code of conduct for themselves as well as buyers and suppliers for use in any industry.

3. Supporting codes of conduct

Often an assumption made is that the buyer's corporate code of ethics or code of conduct is sufficient with regards to the use of reverse auctions. Corporate legal departments typically review the situation and conclude that reverse auctions are an ethical business practice whose use is appropriately addressed by existing ethics or code of conduct policies. This is not surprising, given that attorneys typically do not have first-hand experience in purchasing in general, nor specifically of interacting with market makers and suppliers, managing reverse auctions, or implementing the results. Thus, they are unaware of the ethical issues that their purchasing professionals face day-to-day when pressured by senior management to reduce costs, the results of which typically form the basis of performance appraisal (Emiliani & Stec, 2002b). One buyer, Dow Chemical, reportedly created a code of conduct specific to reverse auctions for itself and suppliers (Staff, 2002a).

The market maker sorcity.com, offers buyers its guidelines for ethical e-auctions (Staff, 2002a). It also requires buyers to adhere to the Institute for Supply Management's "Principles and Standards of Ethical Supply Management Conduct" (ISM, 2002; Staff, 2002a). The ISM's Principles and Standards are recommended for any supply management activity and for anyone who influences the supply management process: e.g. people in finance, engineering, quality, sales, etc., as well as senior managers. In general, the Institute for Supply Management discourages power-based bargaining and supports collaboration between buyers and sellers to solve problems related to price or other factors.

Importantly, the Principles and Standards contain language that suggests buyer's should not use reverse auctions, including:

- "Obtain the maximum value for monies expended. . ."
- "Promote positive supplier relationships. . ."
- ". . .ensure this position size, market power is used within the scope of ethical behavior by the supply management professional and the organization."
- "Avoid unreasonable demands."
- ". . .support only those actions and activities that uphold the highest ethical standards of the profession."
- "Enhance the stature of the supply management profession."

Reverse auctions are not consistent with these components of the "Principles and Standards of Ethical Supply Management Conduct," based on recent studies, surveys, and analyses of reverse auctions and related outcomes (B2BRC, 2003; Bartholomew, 2001, 2002; Emiliani, 2003, 2004; Emiliani & Stec, 2001, 2002a, 2002b, 2004, 2005b; Glimm, 2003; Jap, 2001; Kobe, 2001; MHEDA, 2003; Richards, 2000).

4. Discussion

Industry-specific codes of conduct, "white papers," and other forms of guidance are generally intended to inform sellers of challenges and opportunities, discourage the use of reverse auctions or clarify domains of appropriate use, or eliminate abuse by market makers, buyers, and sellers depending upon the perspective of the trade group. To date, no systematic empirical study has been undertaken to evaluate the effectiveness of these guidelines at discouraging the use of reverse auctions, eliminating abuse, or increasing trust among participants. However, it is clear from related studies and published reports in the business press that they have not been successful at expanding the use of reverse auctions. This can be attributed to several factors, many of which are likely operating simultaneously:

- Buyers are switching to less expensive do-it-yourself software solutions, thus requiring less involvement from market makers (Ryan, 2003).
- Buyers are learning that the domain of applicability to which reverse auctions can be successfully applied for sourcing goods or services is much smaller than originally thought; e.g. 1–5% of total spend vs. 10–50% or more.
- Buyers are unhappy with the benefits they have achieved; i.e. savings and other benefits are inconsistent with that claimed by market makers (Emiliani, in press; Emiliani & Stec, 2002a, 2005b).
- Resistance from people within the buying organization to continue using reverse auctions as a result of negative experiences encountered upon implementation of previous results (i.e. cost of switching sources, quality and delivery problems, etc.).
- Buyers are moving to different solutions such as private trading networks that limit participation to qualified suppliers known to be capable of satisfying their requirements (Staff, 2001).
- Suppliers are learning that the benefits claimed by market makers have been overstated or never existed (Emiliani & Stec, 2004, 2005b).
- New or incumbent suppliers are unwilling to participate in more than one or two discrete rounds of bidding (e.g. reverse auctions every six months).
- Shrinking pool of suppliers willing to bid for work via reverse auctions (Emiliani & Stec, 2004, 2005b).
- Trade group codes of conduct are ineffective at regulating reverse auctions; e.g. buyer abuse remains common, which reduces seller participation.
- Trade group guidelines and related activism have been effective at discouraging the use of reverse auctions among buyers and participation by sellers in some industries (Cardon, 2004; CCA, 2001).

While these factors do not signal the end of reverse auctions, it appears that their use will be limited to narrow

circumstances. Despite a likely future decline in reverse auction activity, suppliers should not be complacent. Instead, they should work vigorously to improve the value offered to buyers in order to reduce their exposure to reverse auctions (Abele, Elliott, O'Hara, & Roegner, 2002).

In the case of European consumer packaging and carton makers (ECMA, 2003), discussion among reverse auction participants about the fairness of reverse auctions has not resulted in actual deployment of the code of conduct. Instead, it precipitated a change in business practices where buyers have moved away from reverse auctions (Cardon, 2004). It has also compelled buyers to move from fixed price contracts to contracts that take into account fluctuating raw material prices. Despite this change, buyers' initial use of reverse auctions has resulted in margin erosion among sellers of consumer packaging and cartons.

For European suppliers of aluminum foil products, the impact of trade association guidelines (EAFA, 2002) has been negligible. (Glimm, 2004). Instead, buyers of non-standard products realize that reverse auctions have many disadvantages and return to traditional sourcing methods. Given the divisive nature of reverse auctions, it is not surprising that many buyers eventually return to collaborative approaches with established long-term suppliers for managing costs and improving quality and delivery performance (Barlas, 2003; Drickhammer, 2004).

For U.S., European, and Japanese automotive parts suppliers, the Original Equipment Automotive Suppliers Associations' "Guidelines for the Conduct of Reverse Auctions" (OESA, 2002) has not received support from most original equipment manufacturers (Hannon, 2003b). Indeed, after a flurry of activity in 2001 and 2002, concerns about reverse auctions have greatly diminished (De Koker, 2004) and have not been mentioned in OESA's monthly newsletter since prior to February 2003 (OESA, 2004). This indicates that reverse auctions have run their course and are no longer a major issue for automotive parts suppliers.

It appears that efforts to create industry-specific codes of conduct and guidelines signals to buyers there is a major problem. Their main benefit, however, is not as a mechanism for voluntarily regulating reverse auctions, but as a source of unified, high-profile, collective feedback from suppliers that challenge the fairness and effectiveness of reverse auctions (Cardon, 2004; De Koker, 2004; Glimm, 2004). This, along with unfavorable outcomes that buyers may have experienced previously, compels buyers to reconsider their position on the use of reverse auctions. These findings support the relevancy of data obtained from secondary sources cited previously.

Abuse among buyers since the inception of reverse auctions in 1995 appears to have given reverse auctions a bad reputation from which it will not soon recover. It is noteworthy that industry-specific codes of conduct and other types of guidelines first appeared starting in 2001, and may have arrived too late to reverse the negative perceptions that have been established among buyers and suppliers. This, coupled with intense price competition among hundreds of market makers, indicates the reverse auction service and software industry will shrink within the next few years.

Importantly, some large industrial buyers have never been drawn to reverse auctions for sourcing production materials, though there may be some spot use for non-production goods and services. These include Toyota Motor Corporation, Honda Motor Corporation, Harley-Davidson, and International Business Machines (Hannon, 2003b; Nikkei, 2000; Staff, 2002b; Teresko, 2002). They dislike reverse auctions, with or without voluntary codes of conduct, for one or more of the following reasons:

- The focus is on price, not cost
- Does not correctly account for total costs
- Damages supplier relationships and teamwork
- Buyers and sellers don't learn how to jointly solve problems
- Focuses people on short-term, rather than long-term results
- Power-based bargaining blocks or corrupts information flow between buyers and sellers
- They are suspicious of easy answers: i.e. if it looks too good to be true, it probably is

These buyers do not view reverse auctions as an effective solution to cost problems, which begin with product or service design-inputs usually controlled by the buyer. To them, the best practice for cost management is not power-based bargaining regulated with voluntary codes of conduct, but collaborative problem solving in order to deliver greater value to customers (Abele et al., 2002; Dyer & Nobeoka, 2000; Jackson & Winkler, 2004; Nishiguchi, 1994; Salimando, 2003; Womack et al., 1990). Value is understood to be a function of price, quality, service, technology, production capability, and management attitude (Bounds, 1996), attributes generally reflected in ISM's Principles and Standards (ISM, 2002). Suppliers are recognized as important contributors to ongoing quality improvement, cost reduction, sources for new product and process ideas, and valuable resources that will help in time of emergency if treated fairly (Nishiguchi & Beaudet, 1998).

However, for most senior managers, collaborative problem solving is an unfamiliar method of improvement whose benefits are uncertain, despite their exhortations for teamwork and the existence of overwhelming evidence to the contrary (Bounds, 1996; Bounds, Shaw, & Gillard, 1996; Cooper & Slagmulder, 1999; Dyer & Nobeoka, 2000; Nishiguchi, 1994; Nishiguchi & Beaudet, 1998; Womack et al., 1990). It is incorrectly perceived as too slow to respond to urgent demands to reduce cost in competitive marketplaces and to increase short-term shareholder value (Emiliani, 2004; Jackson & Winkler, 2004). In addition, it is incorrectly viewed as restricting flexibility–i.e. the ability to quickly switch sources to obtain better prices–when in fact it helps develop much needed interorganizational discipline

and cooperation in the value chain. Buyers that impose unilateral solutions to cost problems forego important opportunities to improve their own competitive capabilities. In essence, they assume their supplier's knowledge and capabilities are so limited that they have essentially nothing to offer. While that may be true in some cases, the long-term success of companies that practice collaborative problem solving tells a different story (Bremner & Dawson, 2003; Dyer & Nobeoka, 2000; Inoue, 2003; Jackson & Winkler, 2004; Liker & Choi, 2004).

The reductions in purchase price that buyers seek, as well as improved quality and service, can be better achieved using traditional disciplined sourcing and collaborative cost reduction processes. This results in bilateral continuous improvement without marginalizing supplier's interests, which are typically more aligned with buyers interests than not. In addition, both buyers and sellers learn new ways to expand competitive capabilities and deliver greater value to end-use customers. Buyers that view suppliers as interchangeable adversaries to perpetually bargain with risk reducing the long-term competitiveness of both parties (Emiliani, 2004).

5. Summary

This paper examined how voluntarily codes of conduct, white papers, and other forms of guidance for market makers, buyers, and sellers have been developed and deployed. Results from primary and related secondary sources indicate that they have not been successful at expanding the use of reverse auctions. They also appear to have had little impact on regulating buyers to achieve improved outcomes, such as less abuse and greater trust, because reverse auctions are, by their very nature, a destructive power-based bargaining tool whose application may not be correctable through codes of conduct, guidelines, etc. (Emiliani & Stec, 2005a).

Codes of conduct for reverse auctions do not constitute a "best practice" in supply chain management. They are essentially an afterthought intended principally to placate supplier's concerns and improve strained relationships between buyers and sellers. In addition, this form of e-procurement has had a negative impact on supply chain management because it strongly reinforces the "price-only" focus typically associated with large-scale industrial purchasing. It is perceived by incumbent suppliers as an attack on profit margins, unfair use of buyer power, and devalues non-price factors such as quality, service, technology, or production capabilities. Therefore, reverse auctions do not "Promote positive supplier relationships…" nor do they "Enhance the stature of the supply management profession" (ISM, 2002).

Whether in the context of e-supply chains or not, collaborative problem solving does constitute a "best practice." Remarkably, only a small number of large companies practice collaborative problem solving effectively, due in part to the disciplined use of established processes and decades-long commitment over generations of senior managers. This yields improved results with respect to interorganizational capability building, process improvement, cost reduction, innovation, and long-term competitiveness. However, to be strong at collaborative problem solving with external suppliers, buyers must first learn how to cooperate internally.

The effect of industry-specific codes of conduct and guidelines on reverse auction usage, abuse, and trust among participants presents opportunities for future research, including:

- How have industry-specific codes of conduct and guidelines been put into practice, how often have they been used, and which elements have been difficult to apply?
- Have they been successful at reducing market maker, buyer, and seller abuse? If so, how, and for what goods or services?
- How have violations by reverse auction participants been addressed?
- What other actions have market makers and buyers take to reduce abuse and improve trust? If successful, then why?
- Why didn't the market makers proactively collaborate in the mid-to-late 1990s to establish a uniform code of conduct applicable to any industry segment? Would it have made any difference?

References

Abele, J., Elliott, B., O'Hara, A., & Roegner, E. (2002). Fighting for your price. *The McKinsey Quarterly*, (4).

AGC. (2003). "White Paper on Reverse Auctions for Procurement of Construction," Associated General Contractors of America, Alexandria, VA, September, http://www.agc.org/page.ww?section=Reverse+Auctions+Resource+Center&name=Reverse+Auctions+Resource+Center#wp, accessed 8 October 2004.

Ariba (2004). "SEC Form 10Q for Ariba Inc.," 13 August, http://biz.yahoo.com/e/040813/arba10-q.html, accessed 5 October 2004.

B2BRC. (2003). "Analysis of Reverse Online Auction Survey," report by The B2B Research Center, Carrboro, NC, April, http://www.datakey.org/mhedajournal/3q03/reverseauctionsurvey.pdf, http://www.b2bresearchcenter.com, accessed 8 October 2004.

Barlas, D. (2003). "Online Auctions: Another Route," *Line56*, 25 November, http://www.line56.com/articles/default.asp?ArticleID=5183&KeyWords=newell++AND+Rubbermaid, accessed 28 September 2004.

Barlas, D. (2004a). "Ariba, Freemarkets Complete Merger" *Line56*, 29 June, http://www.line56.com/articles/default.asp?ArticleID=5744&KeyWords=ariba, accessed 28 September 2004.

Barlas, D. (2004b). "CommerceOne Almost Done," *Line56*, 24 September, http://www.line56.com/articles/default.asp?ArticleID=5990, accessed 28 September 2004.

Bartholomew, D. (2001). "E-Business Commentary – Starving Suppliers is Not the Answer," *IndustryWeek*, 1 November, http://www.industryweek.com/CurrentArticles/asp/articles.asp?ArticleId=1156, accessed 8 October 2004.

Bartholomew, D. (2002). "The Big Squeeze," *IndustryWeek*, 1 April, http://www.industryweek.com/CurrentArticles/asp/articles.asp?ArticleId=1216, accessed 8 October 2004.

Beall, S., Carter, C., Carter, P., Germer, T., Hendrick, T., Jap, S., et al. (2003). "The Role of Reverse Auctions in Strategic Sourcing, CAPS Research Report," CAPS Research, Tempe, AZ, ISBN 0-945968-57-4, http://www.capsresearch.org/publications/reports.cfm?Section=3, accessed 30 September 2004.

Berning, P., & Flanagan, P. (2003). "E-Commerce and the Construction Industry: User Viewpoints, New Concerns, Legal Updates on Project Web Sites, Online Bidding and Web-Based Purchasing," 22 December, http://www.constructionweblinks.com/resources/Industry_Reports__Newsletters/Dec_22_2003/e_commerce.htm, accessed 4 October 2004.

Bounds, G. (1996). Toyota supplier development. In G. Bounds (Ed.), *Cases in quality* (pp. 3–25). Chicago, IL: R.D. Irwin.

Bounds, G., Shaw, A., & Gillard, J. (1996). Partnering the Honda way. In G. Bounds (Ed.), *Cases in quality* (pp. 26–56). Chicago, IL: R.D. Irwin.

Bremner, B., & Dawson, C. (2003, 17 November). Can anything stop Toyota? *BusinessWeek*, 114–122.

Brindley, E. (2000). "Online Auctions Offer Big Contracts, Slim Profits," *Pallet Enterprise*, 1 June, http://www.palletenterprise.com/articledatabase/view.asp?articleID=229, accessed 5 October 2004.

Brindley, C. (2002a). "E-Nightmare: Online Reverse Auctions Offer Low Prices, Deliver Horror Stories," *Pallet Enterprise*, 3 June, http://www.palletenterprise.com/articledatabase/view.asp?articleID=692, accessed 5 October 2004.

Brindley, E. (2002b). "Online Auctions–Who Wins?", *Pallet Enterprise*, 1 February, http://www.palletenterprise.com/articledatabase/view.asp?articleID=618, accessed 5 October 2004.

Butters, J., & Bennett, J. (2002, 9 December). *Covisint hits rough patch as business falling flat*. Detroit Free Press.

Carbone, J. (2004). "Motorola Leverages its Way to Lower Cost," *Purchasing Magazine*, 16 September, http://www.manufacturing.net/pur/article/CA454052.html, accessed 5 October 2004.

Cardon, J. (2004). European Carton Manufacturers Association, Brussels, Belgium, personal communication, 6 October.

CCA. (2001). "An Owner's Guide to Reverse Auctions" and "A Contractor's Guide to Reverse Auctions," Canadian Construction Association, Ottawa, Ontario, Canada, December, http://www.cca-acc.com/news/committee/rag/rag-owner.pdf and http://www.cca-acc.com/news/committee/rag/rag-contractor.pdf, accessed 1 October 2004.

CLBM. (2004). "Online Reverse Auctions: Be Careful!," The Center for Lean Business Management, LLC, http://www.theclbm.com/research.html and http://www.theclbm.com/ora/ora_slides.pdf, accessed 5 October 2004.

Cooper, R., & Slagmulder, R. (1999). *Supply chain development for the lean enterprise*. Portland, OR: Productivity.

Daly, S., & Nath, P. (2005). Reverse auctions for relationship marketers. *Industrial Marketing Management*, *34*(2).

De Koker, N. (2004). Original Equipment Suppliers Association, Troy, Michigan, personal communication, 19 October.

Dougherty, T. (2002). "Reverse Auctions: Current Practices and Possible Strategies for Coping with a New Way of Doing Business," *NASFM Magazine*, August/September, http://www.nasfm.org/magazine_AugSep02_1.cfm, accessed 3 October 2004.

Drickhammer, D. (2004). "Supply Chain Superstars," *IndustryWeek*, 1 May http://www.industryweek.com/CurrentArticles/Asp/printerfriendly.asp?ArticleId=1597 accessed 26 September 2004.

Dyer, J., & Nobeoka, K. (2000). Creating and managing a high-performance knowledge sharing network: The Toyota case. *Strategic Management Journal*, *21*, 345–367.

EAFA. (2002). "Good Trading Practices in Electronic Bidding Processes: Reverse Auctions," European Aluminum Foil Association, Düsseldorf, Germany, April, http://www.alufoil.org/media/eCommerce.pdf, accessed 6 October 2004.

ECMA. (2003). "ECMA Confirms Sector Specific Sales Conditions in E-Auctions," press release, European Carton Makers Association, The Hague, Netherlands, 3 June, http://www.ecma.org, accessed 3 October 2004.

EF. (2002). "Flexible Packaging Europe Code of Conduct Reverse Auctions," Flexible Packaging Europe, The Hague, Netherlands, November, http://www.flexpack-europe.org/downloads/FPE%20Code%20of%20Conduct%20Reverse%20Auctions%20November%202002.pdf, accessed 3 October 2004.

Emiliani, M. L. (2000). Business-to-business online auctions: Key issues for purchasing process improvement. *Supply Chain Management: An International Journal*, *5*(4), 176–186.

Emiliani, M. L. (2003). The inevitability of conflict between buyers and sellers. *Supply Chain Management: An International Journal*, *8*(2), 107–115.

Emiliani, M. L. (2004). Sourcing in the global aerospace supply chain using online reverse auctions. *Industrial Marketing Management*, *33*, 65–72.

Emiliani, M. L. (2005). Executive decision-making traps and B2B online reverse auctions. *Supply Chain Management: An International Journal*, *10*.

Emiliani, M. L., & Stec, D. J. (2001). Online reverse auction purchasing contracts. *Supply Chain Management: An International Journal*, *6*(3), 101–105.

Emiliani, M. L., & Stec, D. J. (2002a). Realizing savings from online reverse auctions. *Supply Chain Management: An International Journal*, *7*(1), 12–23.

Emiliani, M. L., & Stec, D. J. (2002b). Squaring online reverse auctions with the caux round table principles for business. *Supply Chain Management: An International Journal*, *7*(2), 92–100.

Emiliani, M. L., & Stec, D. J. (2004). Aerospace parts suppliers' reaction to online reverse auctions. *Supply Chain Management: An International Journal*, *9*(2), 139–153.

Emiliani, M.L., & Stec, D.J. (2005a). Commentary on 'Reverse Auctions for Relationship Marketers' by Daly and Nath. *Industrial Marketing Management*, *34*(2).

Emiliani, M. L., & Stec, D. J. (2005b). Wood pallet suppliers' reaction to online reverse auctions. *Supply Chain Management: An International Journal*, *10*(5).

Emiliani, M. L., Stec, D. J., & Grasso, L. P. (2004). Improving purchasing performance: An alternative to the purchase price variance metric. in press.

EPC. (2003). "Code of Good Practice for Use of Electronic Market Place," The European Confederation of Associations of Manufacturers of Insulated Wires and Cables (Europacable), 31 July, http://www.europacable.com/files/Publications/Code%20for%20Electronic%20Trading.pdf, accessed 17 July 2003.

Ericson, J. (2003). "Perfect Plans for PurchasePro" *Line56*, 29 June, http://www.line56.com/articles/default.asp?ArticleID=4340&KeyWords=PurchasePro, accessed 28 September 2004.

Ericson, J. (2004). "FreeMarkets Acquires Covisint Auction Assets" *Line56*, 5 January, http://www.line56.com/articles/default.asp?ArticleID=5253&KeyWords=freemarkets, accessed 28 September 2004.

EU. (2002). "Open consultation on 'Trust barriers for B2B e-marketplaces'," European Commission, Enterprise Directorate General, Enterprise Policy Initiative on Business-to-Business Internet Trading Platforms, 26 July http://europa.eu.int/comm/enterprise/ict/policy/b2b-consultation/b2b-trust-cons-sum.pdf, accessed 4 October 2004.

EU. (2004). "Enhancing Trust and Confidence in Business-to-Business Electronic Markets," Communication from the Commission to the Council, The European Parliament, and The European Social and Economic Committee, 14 July, http://europa.eu.int/comm/enterprise/ict/policy/b2b/ and http://europa.eu.int/comm/enterprise/ict/policy/b2b/COM_2004_0479_F_EN_ACTE.pdf, accessed 7 October 2004.

FreeMarkets. (2003). "Customer Case Studies" and "Video Testimonials," http://www.freemarkets.com/en/freemarkets/literature.asp, accessed 7 January 2003.

Fujimoto, T. (1999). *The evolution of a manufacturing system at Toyota* (pp. 129–172). New York, NY: Oxford University Press.
Glimm, S. (2003). "Reverse Auctions-Still Not a Fair Trade," European Aluminum Foil Association press release, February, http://www.eurometallizers.org/download/release_feb_03.pdf, accessed 8 October 2004.
Glimm, S. (2004). European Aluminum Foil Association, Düsseldorf, Germany, personal communication, 8 October.
Goetting, E. (2002, 4 September). When to use an auction. *Line56 Magazine.*
Grant, J. (2003, 3 September). The heat is on for daimlerchrysler costs. *Financial Times.*
Hannon, D. (2003a). "Purchasing Survey Shows E-Sourcing Adoption Stalls," *Purchasing Magazine*, 14 August, http://www.manufacturing.net/pur/index.asp?layout=article&articleid=CA315631&industry=E%2DSourcing&industryid=2155, accessed 8 October 2004.
Hannon, D. (2003b). "Suppliers: Friend or Foe," *Purchasing Magazine*, 6 February, http://www.manufacturing.net/pur/index.asp?layout=article&articleid=CA273552, accessed 8 October 2004.
IHA. (2002). "Reverse Auctions: An Industry White Paper," published by The International Housewares Association, Bannockburn, IL, October, http://www.housewares.org/pdf/reverseauctions.pdf, accessed 6 October 2004.
Inoue, K. (2003, 10 November). As record profits continue, Toyota eyes greater cost cutting. *Bloomberg News.*
ISM. (2002). "Principles and Standards of Ethical Supply Management Conduct," Institute of Supply Management, Tempe, AZ http://www.ism.ws/ISMMembership/PrincipleStandards.cfm, accessed 6 October 2004.
Jackson, B., & Winkler, C. (2004, Fall). Building the advantaged supply network. *Strategy+Business*, *36*, 34–45.
Jap, S. (2001). "The Impact of Online, Reverse Auctions on Buyer-Supplier Relationships," working paper, July, http://gbspapers.library.emory.edu/archive/00000033/01/GBS-MKT-2001-001.pdf, accessed 25 September 2004.
Jap, S. (2003). An exploratory study of the introduction of online reverse auctions. *Journal of Marketing*, *63*(3), 96–107.
Judge, P. (2001). How I saved $100M on the web. *Fast Company*, (43), 174–181.
Kisiel, R. (2002a, 8 July). Daunted, covisint gets one last chance. *Automotive News.*
Kisiel, R. (2002b, 22 July). Low auction revenue plagues covisint. *Automotive News.*
Kisiel, R. (2003, 6 October). Covisint to dump E-catalog. *Automotive News.*
Kobe, G. (2001, March). Supplier squeeze. *Automotive Industries.*
Leonard, D. (2004). Nightmare on Madison Avenue. *Fortune*, *149*(13), 93–108.
Liker, J., & Choi, T. (2004, December). Building deep supplier relationships. *Harvard Business Review*, *82*(12), 104–113.
MHEDA. (2003). "Material Handling Personnel Share Reverse Online Auction Experiences," *The MHEDA Journal Online*, vol. 32, No. 3, Summer, http://www.datakey.org/mhedajournal/3q03/auctionsexperience.php3, accessed 2 October 2004.
Morris, J. (2003). "Material Handling Sellers Dragged into Reverse Online Auctions," *Operations & Fulfillment*, 6 June, http://opsandfulfillment.com/news/fulfillment_material_handling_sellers/index.html, accessed 2 October 2004.
Nikkei (2000, 25 December). Toyota teams with suppliers to reduce procurement costs. *The Nikkei Weekly.*
Nishiguchi, T. (1994). *Strategic industrial sourcing*. New York, NY: Oxford University Press.
Nishiguchi, T., & Beaudet, A. (1998). Case study: The Toyota group and the Aisin fire. *Sloan Management Review*, *40*(1), 49–59.
OESA. (2002). "Guidelines for the Conduct of Reverse Auctions," Original Equipment Suppliers Association, Troy, MI, October, http://www.oesa.org/publications/conduct.pdf, revised April 2003, accessed 8 October 2004.
OESA. (2004). "OE Supplier News," Original Equipment Suppliers Association, Troy, MI, http://www.oesa.org/publications/pastNewsletters.html, accessed 12 October 2004.
Reason, T. (2001). "Looking for Raw Deals," *CFO Magazine*, 1 January, http://www.cfo.com/printable/article.cfm/2991252?f=options, accessed 8 October 2004.
Richards, B. (2000). Dear supplier: This is going to hurt you more than it hurts me. . .. *Ecompany Now*, *1*(1), 136–142.
Ryan, J. (2003, 28 October). FreeMarkets Down 23%: Lowered 4Q outlook disappoints Wall Street. *Dow Jones Newswires.*
Salimando, J. (2003). "Where E-Biz Intersects With You," *The Electrical Distributor*, 16 April, http://www.tedmag.com/default.asp?pagenumber=403, accessed 8 October 2004.
Sawhney, M. (2003). "Forward Thinking About Reverse Auctions," *CIO Magazine*, 1 June, http://www.cio.com/archive/060103/gains.html, accessed 8 October 2004.
SBAC. (2003). "Code of Practice," The Society of British Aerospace Companies, London, UK, July, http://www.bestpracticecentre.com/SBAC%20SCRIA%20code%20of%20Practice.pdf, accessed 8 October 2004.
Smart, A., & Harrison, A. (2003). Online reverse auctions and their role in buyer–supplier relationships. *Journal of Purchasing and Supply Management*, *9*(5–6), 257–268.
Smeltzer, L., & Carr, A. (2003). Electronic reverse auctions: Promises, risks, and conditions for success. *Industrial Marketing Management*, *32*(6), 481–488.
Staff (2001). "Big OEM's Prefer Private Platforms," *Purchasing Magazine*, 22 March, http://www.manufacturing.net/pur/index.asp?layout=article&articleId=CA139764, accessed 8 October 2004.
Staff (2002a). "E-Auction Participants Strive for Fair, Ethical Events," *Purchasing Magazine*, December, http://www.manufacturing.net/pur/index.asp?layout=article&articleid=CA263504, accessed 8 October 2004.
Staff (2002b). "Online Reverse Auctions Create Two Procurement Camps," *Purchasing Magazine*, 21 March, http://www.manufacturing.net/pur/index.asp?layout=article&articleId=CA200244, accessed 8 October 2004.
Stein, A., Hawking, P., & Wyld, D. (2003). The 20% solution? A case study of the efficacy of reverse auctions. *Management Research News*, *26*(5), 1–20.
Stoddard, J. (2003). *Strategies for Reverse Auction Survival*, Graphic Arts Technical Foundation/Printing Industries of America, Alexandria, VA, http://www.gain.net/store/item.cfm?productid=775, accessed 7 October 2004.
Teresko, J. (2002). "Best Practices – Driven by Cost," *IndustryWeek*, September, http://www.industryweek.com/CurrentArticles/asp/articles.asp?ArticleId=1309, accessed 7 October 2004.
Terry, L. (2002). "Channel Watch: Reverse Auctions Impede VARs," *Retail Systems Resellers*, December, http://www.retailsystemsreseller.com/archive/Dec02/Dec02_8.shtml, accessed 7 October 2004.
Tulder, R., & Mol, M. (2002). Reverse auctions or auctions reversed: First experiments by Philips. *European Management Journal*, *20*(5), 447–456.
Tully, S. (2000, 20 March). Going, going, gone! The B2B tool that really is changing the world. *Fortune*, *141*(6), 132–145.
Wagner, S., & Schwab, A. (2004). Setting the stage for successful electronic reverse auctions. *Journal of Purchasing and Supply Management*, *10*(1), 11–26.
Womack, J., Jones, D., & Roos, D. (1990). *The machine that changed the world* (pp. 139–168). New York, NY: Rawson Associates.

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