

## Research note

# Online reverse auction purchasing contracts

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### Keywords

Internet, Contracts, Lean production, Purchasing

### Abstract

Discusses the types of terms and conditions that typically accompany purchasing contracts resulting from online reverse auctions for industrial components. Identifies the terms and conditions that perpetuate traditional batch-and-queue production practices. Concludes that buyers must construct terms and conditions that support the implementation of lean production by suppliers in order to achieve congruency with strategic business goals.

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## Introduction

Online reverse auctions have become a popular method for reducing the price of purchased goods and services (Emiliani, 2000a). Many Fortune 1000 companies are experimenting with this new purchasing technique, while some are making it a regular part of their purchasing practice (Richards, 2000; Tully, 2000; Judge, 2001).

This paper reviews the terms and conditions that typically accompany purchasing contracts that have been awarded to successful bidders for the specific case of industrial components designed by the buyer. The terms and conditions are examined to see if they support batch-and-queue or lean production practices. This is important because many Fortune 1000 companies are implementing lean production in their internal operations. Furthermore, companies that espouse lean production may also deploy "supplier development" teams to teach suppliers the fundamental techniques such as set-up reduction, root cause analysis, *kanban*, 5S (sort, straighten, shine, standardize, and sustain), visual factory, etc. (Shingijutsu, 1992; Imai, 1997).

Terms and conditions provide important clues for determining if there is congruency between key internal departments such as legal, purchasing, and manufacturing operations. A lack of consistency would indicate that the company has not yet trained legal and purchasing departments in business practices that are needed to support supplier efforts to implement lean production. The buyer, having failed to implement the principles of lean in areas other than manufacturing, thus risks under-performance through continued focus on local optimization and emphasis on achieving short-term results (Emiliani, 2001a).

## Terms and conditions

Terms and conditions are established by the buyer and are not usually subject to negotiation because this would complicate the online reverse auction process. One of the purposes of online reverse auctions is to level the playing field. Since many suppliers participate in online bidding, adjusting terms and conditions for individual sellers would favor certain suppliers over others.

In addition, the buyer's legal department often seeks to standardize terms and conditions for contracts where the purchase is repetitive, i.e. for production parts. While perhaps convenient for the seller, standard contracts ignore the reality that business conditions change and different suppliers have different levels of risk tolerance. Small suppliers (i.e. fewer than 200 people) often have difficulty accepting terms and conditions that seek to minimize risk to the buyer. This may or may not prevent small suppliers from participating in the online reverse auction. Such terms and conditions may be less problematic for medium and large suppliers.

Many of the terms and conditions were found to be the same as that contained in purchasing contracts resulting from the traditional three-quote method. However, it is noteworthy that the online reverse auction process gives the buyer an opportunity to establish new terms and conditions that can result in more favorable outcomes for the buyer.

Table I shows the type of terms and conditions that can accompany purchasing agreements that result from online reverse auctions. These terms and conditions were from several online reverse auctions conducted between fall of 1998 through summer of 2000. They are typical of that used by companies in the specific American durable goods industry segment examined for this paper. While these terms and conditions are used to illustrate key points, some may not apply to other industries or specific buyers.

Each of the terms and conditions shown in Table I are considered to be the type that reflects a buyer whose business practices are deeply rooted in batch-and-queue production systems (Emiliani, 2000b). Table II presents

the rationale for this observation, largely driven by the traditional mindset in which tradeoffs are judged to be acceptable solutions to common business problems (Emiliani, 2001b).

Several of these terms and conditions require further discussion.

#### **“Offer”, “base unit”, “pricing” and “termination”**

The buyer makes no commitment to purchase the forecasted quantities that the seller used to help determine pricing. Thus, the buyer may, for selected line items:

- Purchase nothing over the life of the contract for selected line items.
- Purchase 10 per cent of the forecasted quantity, but will not permit higher prices due to reduced purchase volumes.
- Purchase double the forecasted requirement and will require a price reduction due to the increase in volume.

This type of behavior shows that the buyer has little knowledge of its customer's near-term requirements and that its production planning process is terribly flawed. This simply increases waste (Ohno, 1988).

The buyer seeks to transfer as much risk as possible to the seller. The supplier will have to rely on guesswork to determine what the buyer wants and will likely have difficulty meeting the buyer's performance expectations. If the seller can not achieve the price because they guessed wrong, then the buyer may terminate the contract for convenience.

The lack of commitment to purchase is inconsistent with the production planning and order release practices used by lean buyers (Ohno, 1988; Monden, 1998). Lean buyers operate pull systems, and thus know

Table I Typical online auction terms and conditions

Terms and conditions	Requirement
Re-negotiation frequency	Upon termination of agreement (usually after 2-3 years)
Offer	No buyer commitment to purchase. Price agreement only
Base unit	Volume drives price
Termination	For convenience
Acceptance of terms	Without exception
Pricing	Firm fixed prices
Continuous improvement	Buyer encourages seller to implement lean production to meet performance goals
Charge-backs	Supplier assessed financial penalties for quality non-conformances
Payment terms	Extend to > 30 days
Inventory	Consigned at supplier's expense
Lead-time	Meet lead-time goals by stocking finished goods inventory

Table II Typical online auction terms and conditions

Terms and conditions	Requirement	B&Q practice
Re-negotiation frequency	Upon termination of agreement (usually after 2-3 years)	Multiyear period between negotiation unrealistically assumes business conditions do not change
Offer	No buyer commitment to purchase. Price agreement only	Buyer makes no firm commitment to purchase, thus increasing cash flow and reducing working capital
Base unit	Volume drives price	Legacy of "learning curve" mentality, where cost depends upon volume
Termination	For convenience	Buyer seeks maximum flexibility to switch sources if lower prices can be found
Acceptance of terms	Without exception	Unrealistically assumes that all sellers have same level of risk tolerance (i.e. "one size fits all")
Pricing	Firm fixed prices	No price adjustments under any circumstances
Continuous improvement	Buyer encourages seller to implement lean production to meet performance goals	Does not recognize conflict with other terms and conditions
Charge-backs	Supplier assessed financial penalties for quality non-conformances	Punitive punishments designed to ensure compliance
Payment terms	Extend to > 30 days	Maximize benefit to buyer through improved cash flow
Inventory	Consigned at supplier's expense	Push the problem of inventory onto suppliers
Lead-time	Meet lead-time goals by stocking finished goods inventory	Assumes lead-times cannot be reduced

what they want, when they want it, and where they want it. They will usually commit to purchase a minimum quantity because they have a much better understanding of customer demand and recognize that suppliers function more effectively when uncertainties and unrealistic expectations are mitigated. These practices reduce waste (Ohno, 1988; Womack *et al.*, 1990).

#### **"Inventory" and "lead-time"**

The buyer requires winning suppliers to establish a stocking program to meet its lead-time reduction goals. This, of course, is pure batch-and-queue thinking, and plays to the common paradigm that high levels of inventory are needed in order to achieve high fill rates (Chase *et al.*, 1998). It does not make sense to build and maintain expensive finished goods inventory (waste of over-production) in order to reduce lead-times (Ohno, 1988).

Instead, lead-times are reduced by process improvements such as 5S, cellular manufacturing, set-up reduction, standard work, total productive maintenance, root cause analysis, and mistake proofing. This, coupled with production leveling and *kanban*, enables suppliers to achieve high performance at low cost (Shingijutsu, 1992).

#### **"Charge-backs"**

The buyer seeks to apply punitive financial punishments for quality non-conformances to ensure compliance to the contract. However, the supplier may respond to this by increasing inventory or adding inspections to eliminate repeat occurrences. But this does not address the root cause of the problem. Thus, the buyer does not apply the right incentive to motivate suppliers to continuously improve their performance. In contrast, lean buyers work with their suppliers to help them develop root cause analysis skills and may use charge-backs as a last resort.

#### **"Payment terms"**

A favorite tactic used by batch-and-queue buyers is to extend payment periods in order to improve their own cash flow. Predictably, this antagonizes suppliers, especially small ones, as they too have bills to pay. Small suppliers rightly question why buyers do this. The cost of capital (combined debt and equity) for large buyers is lower than for small suppliers. The costs incurred by small suppliers when financing inventory is contained in the overhead rate paid by large buyers. So the buyer, fixated on optimizing its own financial performance, lays the foundation for future problems such as price increases, switching costs, etc.

### The purchase contract

The contract examined by the authors is approximately 20 pages long and contains many other terms and conditions with which suppliers must comply. The terms and conditions are written to ensure that all of the benefits accrue to the buyer and virtually none to the supplier. The result is a complex and burdensome contract that will be difficult for both buyer and seller to administer. It perpetuates incorrect thinking, entrenches bureaucracy, and does not add value as perceived by the end-use customer (Womack and Jones, 1996). Disputes or other undesirable outcomes are likely, which are forms of waste that can be avoided (Emiliani, 1998). It appears that suppliers are being positioned for dismissal as soon as the buyer finds a better deal. This is a key characteristic of the short-term, results-focused, management practices that pervade business today.

In contrast, lean producers establish contracts with sellers that contain terms and conditions in which benefits are shared (Nishiguchi, 1994; Bounds *et al.*, 1996). Suppliers are seen as valuable resources that can help increase competitive advantage. Buyers that correctly practice lean production willingly transfer their knowledge to suppliers in order to help develop their capabilities. (Nishiguchi, 1994; Bounds, 1996; Bounds *et al.*, 1996; Fujimoto, 1999). As might be expected, suppliers that are treated fairly are responsive in times of crisis (Nishiguchi and Beaudet, 1998), whereas suppliers treated

unfairly will search for opportunities to exploit the buyer by inflating non-recurring charges (i.e. tooling and expedite fees), increasing part prices, or withholding delivery (Goodman, 2001; Green, 2001).

Finally, it is worth noting that online reverse auctions negate the reality that 70-90 per cent of the cost of components is in their design (Cooper and Slagmulder, 1999). Thus, buyers that adopt online reverse auctions as part of normal purchasing practices will fail to develop their engineers' capabilities to design to target cost (Monden, 1995). It also diminishes marketing's responsibility to understand the price that customers will pay and ensures that finance's role remains largely reactive.

Table III compares the terms and conditions applied by buyers skilled in batch-and-queue versus lean business practices. Note that the intent and use of the terms and conditions are quite different. The terms and conditions applied by lean buyers more accurately reflect the realities of business (Emiliani, 2001a). They motivate the supplier to continuously improve, eliminate waste, and achieve shared business objectives (Nishiguchi, 1994).

### Summary

A supplier's ability to develop its capabilities as a lean producer will be driven in large part by the buyer's business practices. Specifically,

Table III Comparison of batch-and-queue versus lean terms and conditions

Terms and conditions	B&Q buyer	Lean buyer
Re-negotiation frequency	Upon termination of agreement (usually after three years)	Annually, or as changing market conditions dictate
Offer	No buyer commitment to purchase. Price agreement only	Commitment to purchase defined quantity or percent of requirement
Base unit	Volume drives price	Mutually agreed upon price, based on target cost process
Termination	For convenience	For non-performance (two-way)
Acceptance of terms	Without exception	Mutual problem solving
Pricing	Firm fixed prices	Ongoing dialogue on price; adjustments when reasonable
Continuous improvement	Buyer encourages seller to implement lean production to meet performance goals	Buyer teaches supplier how to implement lean production
Charge-backs	Supplier assessed financial penalties for quality non-conformances	Root cause analysis and mistake proofing; charge-back used as last resort
Payment terms	Extend to > 30 days	Pay upon receipt or shipment of finished product
Inventory	Consigned at supplier's expense	Little or none; may have strategic buffers in supply chain
Lead-time	Meet lead-time goals by stocking finished goods inventory	Reduce lead-time by eliminating waste

the ability to incorporate the concepts of lean in purchasing and legal, as well as product design, production planning, finance, and manufacturing. Terms and conditions that minimize buyer risk can have unintended consequences that result in increased waste and reduced customer value.

The buyer must remove inconsistencies in contract terms and conditions such as those presented in this paper. This can be accomplished by benchmarking the contract terms and conditions used by lean buyers such as Toyota and Honda. In addition, buyers must understand the supplier relationship practices that lead to sustained competitive advantage if they wish to be considered truly lean producers (Bounds 1996; Bounds *et al.*, 1996; Fujimoto, 1999; Cooper and Slagmulder, 1999; Nishiguchi, 1994).

Senior managers of large publicly traded businesses typically view the sole purpose of business to be to increase shareholder value (Rappaport, 1998). The single-minded pursuit of this objective invariably leads to practices that disenfranchise key stakeholders such as suppliers (Caux, 2001; Emiliani, 2001a; Emiliani, 2001c). While the best practitioners of lean production may use online reverse auctions for commercially available items such as office supplies or industry standard parts (Nikkei, 2000a), they continue to use collaborative cost reduction methods for high value-added components (Nikkei, 2000b; 2000c; 2000d; 2000e).

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